DG .net

CIO enterprise

Section Two • October 15, 1998
194 Pages In Two Sections

What's With Consulting Fee Structures? Page 92

Stacey Davis of the Oklahoma City Water Utilities Trust found his organization embroiled in a decade of legal wrangling over a failed IT project. The cautionary tale begins on Page 42.

Hired Brains

A SPECIAL REPORT ON I.T. CONSULTING

Results of Our Exclusive Survey
Page 30

When All Else Fails, Litigate
Page 42

Managing Consultants to Save Your Project
Page 60

The State of the Consulting Industry
Page 74

Share the Wealth

These days, technology leadership is a team sport. For an organization to get full value from its technology investments, all members of the executive staff must understand the game. With CIO Enterprise, CIO Magazine leverages 11 years of experience bridging the gap between business and technology to bring the most enlightening and relevant stories to executives of all functions. So pass it along. If you're reading CIO Enterprise for the first time and you like what you see, just fill out and mail one of our ubiquitous subscriber cards and become a subscriber yourself.

IDG .net

What's With Consulting Fee Structures? Page 92

CIO enterprise

Section Two • October 15, 1998
194 Pages In Two Sections

Hired Brains

A SPECIAL REPORT ON I.T. CONSULTING

Results of Our Exclusive Survey
Page 30

When All Else Fails, Litigate
Page 42

Managing Consultants to Save Your Project
Page 60

The State of the Consulting Industry
Page 74

FYI

FROM: _____

Attached is a copy of **CIO Enterprise**. The articles take a cross-functional look at leveraging information technology to add enterprise value. Thought you might be interested...

TO: _____

TO: _____

TO: _____

TO: _____

TO: _____

WHAT'S ON CHARLES SCHWAB'S MIND:

36 million potential investors.

Each.

And.

Every.

One.

WHAT'S NOT:

PeopleSoft business software.

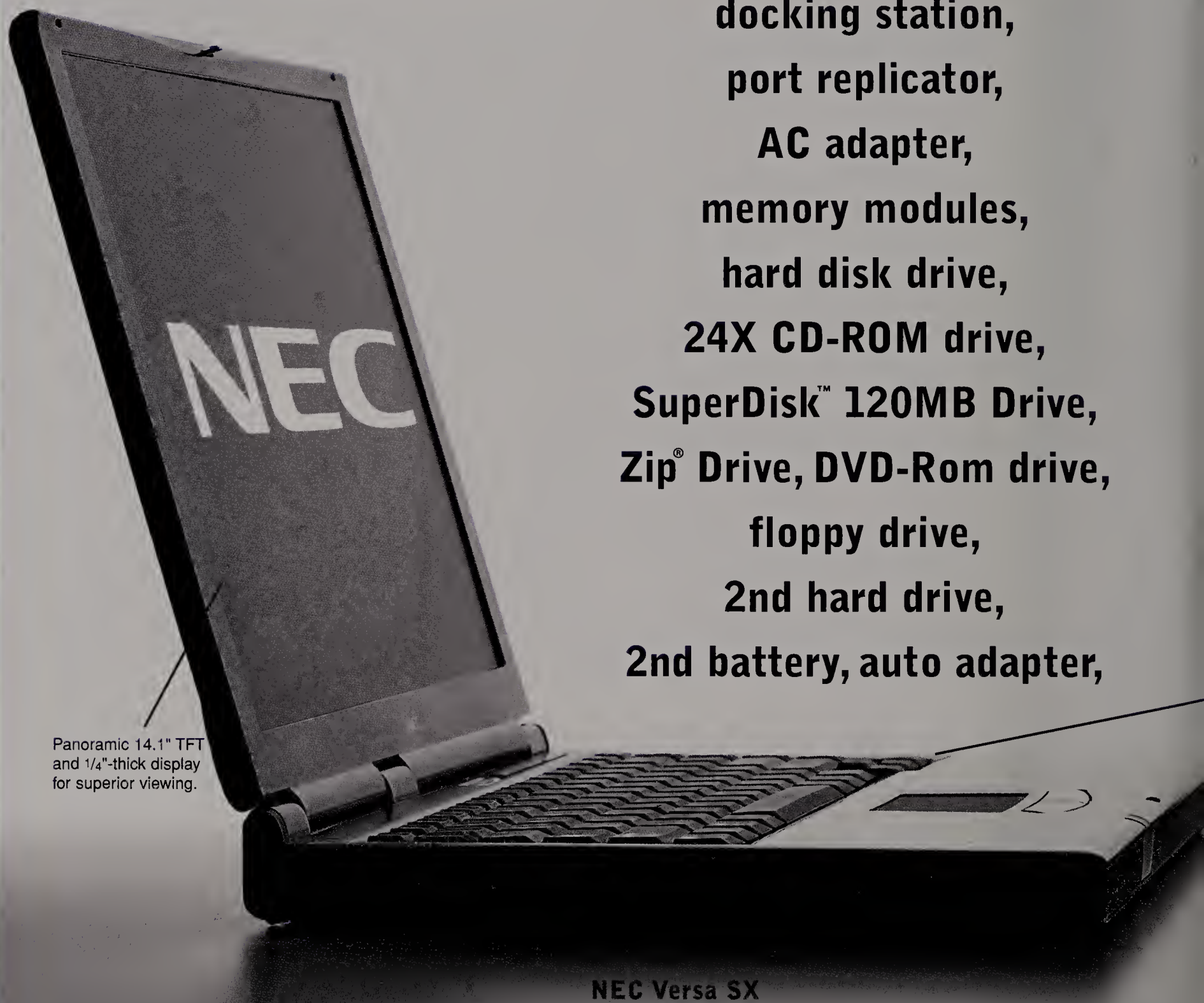
©1998 PeopleSoft, Inc. PeopleSoft and the PeopleSoft logo are registered trademarks of PeopleSoft, Inc.

Charles Schwab has precious little time to worry about its business software. Enter PeopleSoft. Our Financial Management and Human Resources software has proven so reliable that Charles Schwab can focus on other things. 36 million investors, for instance. For more information, call 1-888-773-8277 or visit www.peoplesoft.com/schwab.

PEOPLE® Soft

We work in your world.™

Only one family of notebooks shares the same docking station, port replicator, AC adapter, memory modules, hard disk drive, 24X CD-ROM drive, SuperDisk™ 120MB Drive, Zip® Drive, DVD-Rom drive, floppy drive, 2nd hard drive, 2nd battery, auto adapter,



Panoramic 14.1" TFT and 1/4"-thick display for superior viewing.

NEC Versa SX

The world's thinnest and lightest full-featured Pentium® II processor-based modular notebook (1.3" thin and as light as 4.8 lbs.).

Announcing the first notebook family with completely interchangeable parts.

Never before has a family of notebooks had this much in common. With everything from swappable battery packs to universal docking stations, the Versa® family offers a level of cross-compatibility you can't get anywhere else. This extraordinary family even shares industry-leading display technology that gives you 13.3" or 14.1" TFT displays,

Docking Station

Modular VersaBay III for all bay devices

©1998 NEC Computer Systems Division, Packard Bell NEC, Inc. NEC is a registered trademark and Versa is a U.S. registered trademark of NEC Corporation. VersaBay and PortBar are trademarks of NEC Corporation. All are used under license. Prices and product specifications are subject to change without notice. The Intel Inside logo and Pentium are registered trademarks of Intel Corporation. All other trademarks and registered marks are property of their respective owners. Dept. No. CI914A

and the same logo.

Modular VersaBay™ III -
provides ultimate versatility, allowing
you to swap any one of seven components
to meet your changing needs.

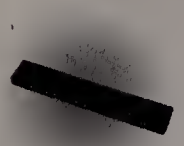
Built-in floppy or SuperDisk
120MB Drive for the storage
capacity you require.

PC Magazine Editors' Choice,
August 1998 Blockbuster Issue.

NEC Versa LX

A powerful desktop replacement
with mega-capacity hard drives, the fastest mobile
Pentium II processors, and 3-D graphics chip set.

which consume 20% less power, are 20% lighter, and are 33% thinner than previous LCDs. What's more, you get all this for a starting price of just $2599. So when you consider how many remarkable innovations Versa notebooks have in common, it's no wonder they also share the same logo — NEC. For more information, simply call us or visit our website today.



Port Replicator

AC Adapter

intel inside
pentium® II
PROCESSOR

1-888-863-2669 www.necnow.com/LXSX/

NEC

CIO enterprise

VOL. 12 • NO. 2 • OCTOBER 15, 1998 • 194 PAGES IN 2 SECTIONS
SECTION 2

Special Issue: IT Consulting

30 **The Strangers In Your Midst**

CONSULTING SURVEY *CIO* polled readers to delve into their satisfaction with the consulting product and uncover their strategies for managing the people who provide it.
By Carol Hildebrand and Lew McCreary

42 **Double Jeopardy**

CONSULTING NIGHTMARES Spending a bundle on smart, hard-working consultants won't guarantee you'll get what you paid for. Just ask the Oklahoma City Water Utilities Trust. *By Christopher Koch*

60 **Their Pain, Your Gain**

MANAGING CONSULTANTS Problematic IT projects yield lessons for best practices in working with consultants.
By Gary Abramson

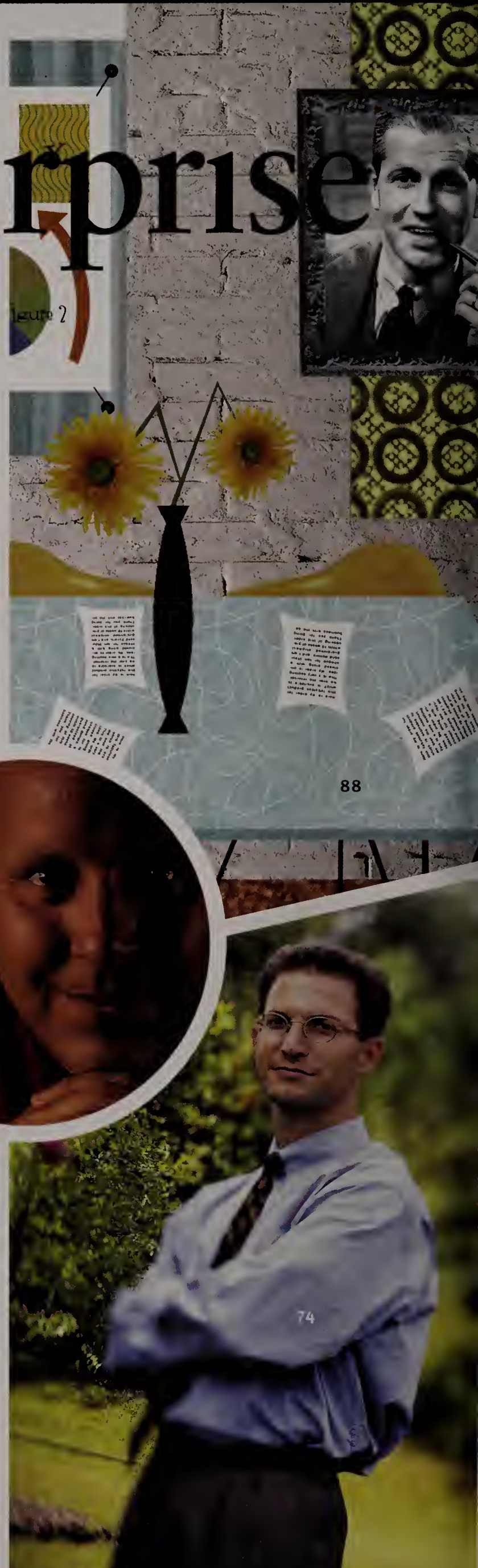
74 **The Latest in Suits**

CONSULTING TRENDS The explosive growth of the IT consulting industry presents new opportunities and new challenges for companies. Here are some of the trends to look for.
By Jennifer Bresnahan

88 **Let's Play Consultant!**

MANIPULATING CONSULTANTS Did you ever want to have greater control over your consultants? Create your own on these pages!

ON THE COVER With towering odds against them, Stacey Davis and the Oklahoma City Water Utilities Trust stood tall in the face of two consulting debacles.
Cover photo by Robbie McClaran



"How does Gulf Canada pump out reliable budget data?

We use WebFOCUS."

"WebFOCUS gave us the budget control we need – on a fast development cycle."

Alice Bienia
Technical Services
Gulf Canada

Gulf Canada has a challenge that's common to many companies. Assets are spread over vast distances. At every site, managers need local control plus the ability to drill into corporate databases for forecasting. Above all, they require total accuracy because those forecasts drive capital allocation, production and revenue.

Sound familiar? Then do what Gulf Canada did. They called Information Builders. Using WebFOCUS reporting, Cactus, a Web development tool, and EDA middleware they created a system that lets managers easily access information and file reports over their intranet. The results: higher productivity. And more effective capital allocation.

Go to **www.ibi.com** to find out how you can use Internet technologies to increase business advantage for your company. And start using IT to pump up your profits.

CALL THE BUILDERS

www.ibi.com/cci
(800) 969-INFO
In Canada call (416) 364-2760
Information Builders, Inc. New York, NY (212) 736-4433 E-mail: info@ibi.com

Information Builders®
Uniting the Web and the Enterprise

Farsighted.

Creating enterprise value from customer data is your vision. As the glob
Call or visit our website for you

der in data and information services, we're the partner that can make it happen.
e executive guide on managing data assets. 1-888-3ACXIOM / www.acxiom.com

ACXIOM®
Privacy assured

CIO enterprise

Columns

28 **Walk the Walk**

REALITY BYTES Got a problem with consultants? Stop complaining and put a little more muscle into managing them.

By Carol Hildebrand

28

92 **Methods of Payment**

CHECKS & BALANCES The way you choose to pay the piper may determine how happy you are with the tune.

By Geoffrey James

98 **Ask the Experts**

LEARNING CURVE How do you pick the right type of consultant for the job?

By Carol Hildebrand

Departments

12 **Contributor's Page**

14 **In My Opinion**

Letter from the publisher • On our Web site

18

16 **Plugged In**

Dummy Book, Smart Advice • Popularity Contest • Internet Humor • The Consultant Rag • Growth Spurt • Taxing Profits

96 **Index**

Inside Section 1

COVER STORY: THE I.S. ORGANIZATION At companies that assign an IT department to each business unit and a CIO to each IT department, divisional CIOs enjoy a life far different from that of their corporate counterparts.

SYSTEMS DELIVERY Planning a major systems change? IT operations personnel have the skills and the connections to ease the entire process.

NETWORK KNOWLEDGE A simulated network proves a perfect training ground to teach IS professionals how to respond to real-life crises.

BOOK EXCERPT: INFORMATION RULES What you should know about customer loyalty and the competitive concept of lock-in.

EXECUTIVE COUNSEL When you run your systems 24/7, don't run your people—or yourself—into the ground.

EMERGING TECHNOLOGY Be prepared for some trade-offs when it comes to IP telephony.

FORRESTER VIEW Any and all business functions can now be outsourced—or will be soon.

WORKING SMART Since launching a new processing system in early 1997, Solutia has cut its expense reporting costs by almost half.

DO YOU HAVE A POWER NETWORK™

If dealing with Year 2000 PBX issues has

you frustrated, we suggest you invest in a Meridian 1.

Or perhaps a heavily padded helmet.

INVEST NOW IN A NORTEL MERIDIAN 1. And save yourself further head trauma induced by complex compliance issues. Meridian 1 – the global leader in digital switching – has been Year 2000 compliant since 1976. In addition, Meridian's product portfolio – the industry's broadest – seamlessly integrates voice, video and data. And Meridian 1 helps transform your network into a Power Network, so it adapts to changing demands with the least disruption for you and your customers. Which means with Meridian 1, you get a digital switch designed to take your business well into the new millennium. And the commitment of a company anticipating challenges and solving problems now, so you won't have them to deal with later. For more information and a definition of Year 2000 compliance, visit **www.nortel.com/J19E** or call **1-800-4 NORTEL, dept. J19E**. Or for the helmet, check with a sporting goods store near you.

NORTEL
NORTHERN TELECOM

MERIDIAN

© 1998 Northern Telecom. Nortel, the globemark, Meridian and Power Network are trademarks of Northern Telecom.

hp & j.d. edwards = adaptability

Business is constantly changing. In order for your business to keep up, your enterprise system needs to adapt. HP enterprise systems combined with J.D. Edwards® SCOREx supply chain

JDEdwards®
Enterprise Software

J.D. Edwards is a registered trademark of J.D. Edwards & Company. ©1998 Hewlett-Packard Company

solutions allow you to better manage your changes one step at a time—giving your business what's necessary for growth. For more information, visit www.hp.com/go/jd_edwards.

HEWLETT PACKARD

Re: Outside Man Syndrome

Successful consultants had the best lunch boxes in grade school (inside: Hostess Cupcakes, not fruit).

IT SEEMS THAT MUCH OF THE corporate world views consultancies, from Big Five behemoths to office-in-the-spare-room outfits, with the suspicion usually reserved for building contractors. Consultants cost too much; they don't deliver the product; they use one engagement to sell another. Yet while the men and women who dispense advice for a price provoke much executive grumbling, those same grumblers spend millions of dollars annually on consulting projects.

How do consultants get corporate America to spend so freely? My personal theory is that successful consultants were the kids who had the best lunch boxes in grade school (inside: Hostess Cupcakes, not fruit). They were the most self-possessed kids in high school. They were not members of the chess club, although they got good grades. Their mothers did not make their little darlings wear horrid Wrangler jeans just because they were cheaper. (I haven't yet identified the exact formula, although the correct jeans are definitely known to impart an undefinable psychological edge.) As grown-ups, these folks are gifted with the guts and chutzpah to walk into an unknown situation, assess it and spit out a solution. And here's what's even more amazing: Somehow—personal aura? clandestine hypnotic ability?—consultants can persuade business executives that although as outsiders they may be unacquainted with the company culture, team dynamics and individual contributors, they have a keen and unerring grasp of the situation. Far more, at any rate, than the saps actually employed by the company in question. I call it the Outside Man Syndrome, and it's based on the premise that the less you know about people, the more easily you can endow them with desirable traits and edit out the flaws. It's hard to do that with the people you see at the coffee pot day after day.

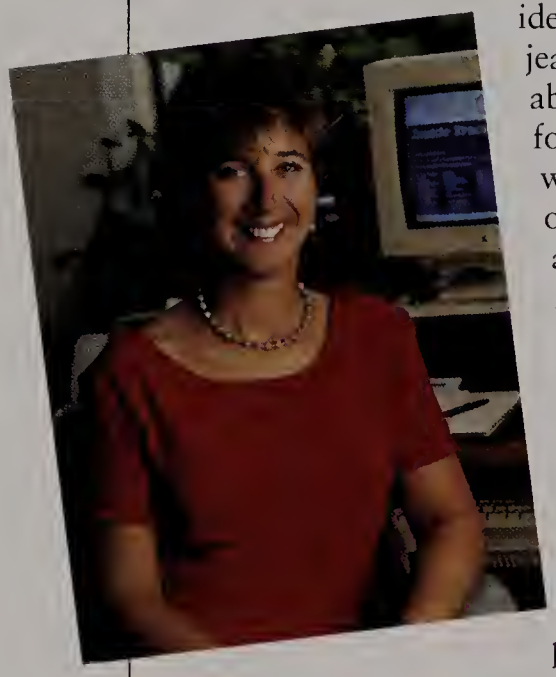


PHOTO BY WEBB CHAPPELL

There's only one way to break Outside Man Syndrome: Make each prospective consultant bring in a very unflattering picture from his or her youth—even consultants must have one. One look and they'll be reduced to frail humanity, just like the rest of us.

Carol J. Hildebrand

Carol Hildebrand, Senior Editor
cjh@cio.com

CIO

© CIO Communications, Inc.

President, CEO and Group Publisher Joseph L. Levy
Publisher Gary J. Beach
Editorial Director Lew McCreary

EDITORIAL

Editor in Chief Abbie Lundberg
Executive Editor Richard Pastore
Managing Editor Anne Stuart
Managing Editor, Production Cheryl R. Asselin
Senior Editors Howard Baldwin (West Coast), Alice Dragoon, Carol Hildebrand, Art Jahnke, Christopher Koch
Features Editors Elaine M. Cummings, Todd Datz, Perry Glasser, Sandy Kendall, Katherine Noyes, Megan Santosus (Web & Print)
Senior Copy Editor Sheila Neylon
Copy Editors Steve King, Meg Mitchell, Thomas G. Wailgum
Senior Writers Gary Abramson, Mindy Blodgett, Peter Fabris, Tom Field, Sari Kalin, David Pearson, Polly Schneider, Derek Slater
Staff Writer Daintry Duffy
Editorial Researcher Carol Zarrow
Editorial Assistants Kathleen Carr, Meridith J. Levinson, Lynne Zouranjian
Editorial Operations Manager Lisa Jayne Kerber
Contributing Editor Sara Shay
Contributing Writers Steven Bell, Jennifer Bresnahan, John Edwards, Louise Fickel, Geoffrey James, Lauren Gibbons Paul, Carl Shapiro, Dan Sweeney, Hal R. Varian, Matt Villano

DESIGN

Group Director, Art and Design Mary Lester
Art Director Lisa Munroe
Associate Art Director Michael Siggins
Sr. Graphic Designers Hana Barker, Terri Haas, Steve Traynor
Graphic Designer Terri Mitchell
Associate Graphic Designers Kaajal S. Asher, Robin M. Belliveau, Jessica L. Sepe

WEB SITE

VP / Technology and Webmaster Tim Horgan
Web Editor Stephen L. Singer
Senior Web Developer Dagmar Eiben
Web Researcher Kathleen Kotwica

CIRCULATION

VP / Circulation Carol A. Spach
Circulation Manager Susan Woodworth
Subscription Svcs. Manager Denise Perreault
Circulation Coordinator Tina Pescaro
Circulation Assistant Kim Galloni

PRODUCTION

VP/ Production Lori Beth Sadewitz
Senior Production Manager Resa Altsher
Production Associate Lee Tuttle

EXECUTIVE PROGRAMS

Senior VP / Exec. Programs Lynda Rosenthal
Director, Program Planning Susan T. Montgomery
Director, Programs / Event Development Robin L. Azar
Assistant Program Manager Thomas M. Pitkin
Manager, Program Operations Cynthia Laird
Technical Admin. Specialist Liz Hecht
Program Mktg. Specialist Jeremy E. Draper
Administrator, Program Planning & Finance Sandra J. Hughey
Fulfillment Manager Brian Fuce
Administrator, Exec. Programs Heather Beauton
Coordinator, Exec. Programs Michael Barbato
Manager, Ancillary Products Bill Kerber

MARKETING

VP / Marketing Cathy O'Leary Hayes
Online Marketing Director Lisa Brown
Research Director Bridget Cammarata
Marketing Comm. Director Marcy L. Dill
Public Relations Director Susan Watson
Cust. Service Rep. / ConsultWare Dot Caspersen
Research Associate Caroline Cerullo
Publicist Karen Fogerty
Marketing Comm. Specialist Lisa Wilson-Wirth
Online Marketing Associate Michael McPhee
Marketing Assistant Julie Hanson

ADMINISTRATION

VP/ Finance & Admin. Walter Manninen
Assistant to the Publisher Diane Martin
Office Specialist Cara Kelley
Financial Analyst Kerry Grady
Accounting Specialist Chris Davis

INFORMATION SYSTEMS

IS Director David Woodall
Manager, Network Services James C. Burgoyne
Manager, Desktop Services Louise Pelletier
IS Specialists Simon Liang, Katy Tynan

BPA INTERNATIONAL

These world-class companies are on the same page for one reason.

PRICEWATERHOUSECOOPERS

Kellogg's

MCI

ARTHUR ANDERSEN

CHASE

HEWLETT PACKARD

3M

IBM

They all rely on Dow Jones Interactive, the world's most comprehensive online business intelligence service.

Every day the people who drive these companies get smarter.

Senior executives track their businesses, industries and competitors. Marketing professionals scour trade pubs to uncover trends and plan product strategy. Sales reps mine for prospects and access information to develop effective business presentations.

These companies trust Dow Jones Interactive to provide the news and information that makes their information networks valuable. So it's no wonder they're among the most successful in the world.

If your company is world-class —or strives to be—it's time to make Dow Jones Interactive available to you and your colleagues.

Take a free tour at djinteractive.com or call 800-369-7466 to arrange for a corporate consultation.

Dow Jones Interactive℠
Everything You Really Need To Know.

http://djinteractive.com **800-369-7466** **email: djiinfo@wsj.dowjones.com**

©1998 Dow Jones & Company, Inc. All rights reserved. DJI-291

DOWJONES

In My Opinion

Never before have business and industry been so dependent on IT and the CIO.

WITH FEWER THAN 442 days before the new millennium begins, it's not sufficient to use information technology just to reduce costs and improve efficiency. IT must be used to speed time-to-market for new products and services, and build closer and stronger relationships with business partners and customers.

CIOs must be aware that business executives believe the rate of change in the IT industry presents a serious challenge. Too often, today's hot technology is shrouded in mysterious buzzwords until it becomes obsolete six months later. In addition, when large enterprisewide projects are undertaken they invariably are late and over budget.

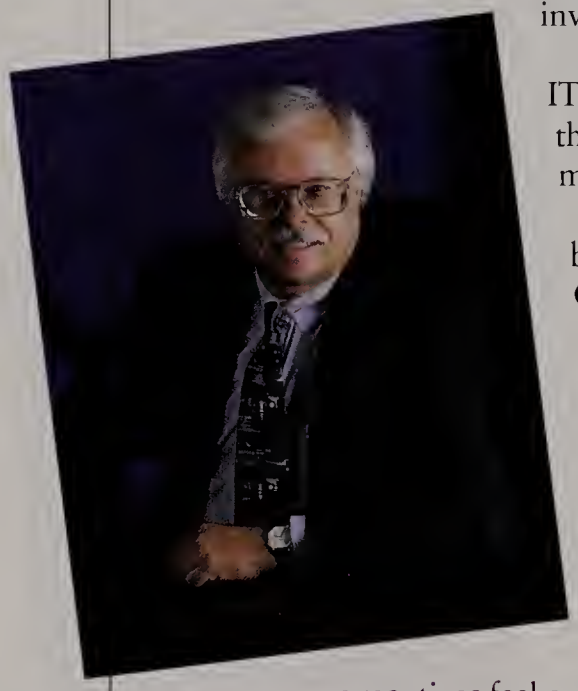


PHOTO BY WEBB CHAPPELL

At the same time, worldwide spending on IT systems continues to soar. *CIO* estimates that next year IT spending will increase more than 10 percent to $800 billion.

Never before have business and industry been so dependent on IT and the CIO. Consequently, digital technology is forcing the pace of convergence and removing the barriers between voice, data and video traffic, leading to the creation of vast amounts of data.

For the CIO to succeed in the 21st century, he or she must become the Chief Knowledge Officer (CKO) as well. This explosion of data presents both opportunities and pitfalls. Many executives feel overwhelmed by the sheer volume of data and complain of information overload and stress.

CIOs must make this flood of data more manageable. Similarly, capturing new types of information offers new opportunities for data mining and finding trends through the use of business intelligence software.

Creating and managing information bring many responsibilities. As customer requirements become increasingly complex, CIOs will have to be smarter in how they deliver their organizations' goods and services. CIOs will also have to keep CEOs content because there is greater pressure to ensure returns on technology investments.

What are your thoughts on the future of enterprise computing and the role of the CIO as the CKO?

Joseph L. Levy
President, CEO and Group Publisher
jlevy@cio.com

New On Our Web Site

cio.com
http://www.cio.com

Read It Online
The complete, full-text versions of the articles that appear here, including links, are now available on the *CIO Enterprise* home page.
enterprise.cio.com

Ask the Expert
Have a question about the year 2000? Now you can pose it to Ian Hayes, founder and president of Clarity Consulting and co-author of *The Year 2000 Software Crisis: The Continuing Challenge*.
CIO's Ask The Expert Web series offers readers the chance to pose questions to industry leaders. From Oct. 15 to Nov. 1, Hayes will be available to offer tips and advice about the year 2000 problem.
E-mail him your questions at asktheexpert@cio.com.

Research Centers
CIO's Research Centers provide IT and business executives with links to trends, developments and intelligence on how to use technology for competitive business advantage.
www.cio.com/forums

How to Reach Us

E-mail: *letters@cio.com*

Phone: 508 872-0080

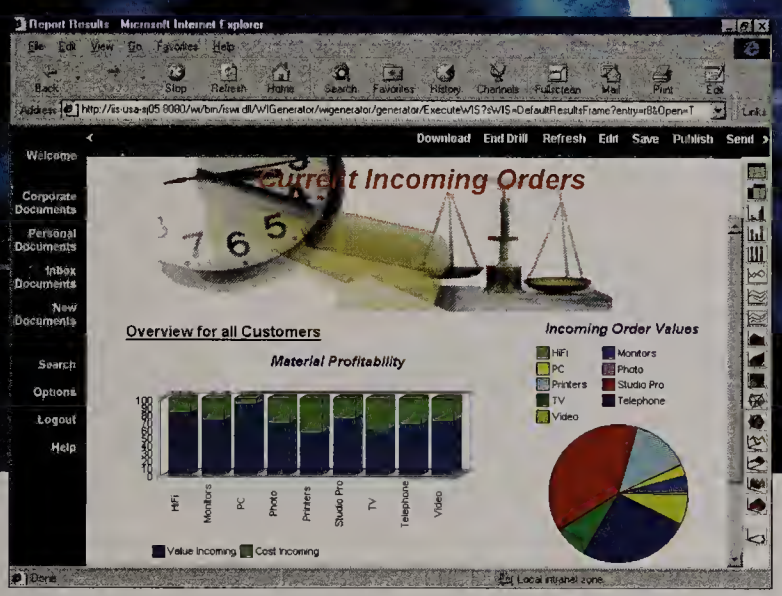
Fax: 508 879-7784

Address: CIO Communications Inc., 492 Old Connecticut Path, P.O. Box 9208, Framingham, MA 01701-9208

Web Site: *www.cio.com*

Subscriber Services: 800 788-4605; Fax: 508 879-7899; E-mail: *denisep@cio.com*

Reprints: Reprints are available by calling 508 935-4539.



What you put into your ERP system is your business.

Helping you get more out of it is ours.

Whether you rely on SAP, Oracle, Baan, PeopleSoft, or other popular solutions, it's important to remember that to users, the data in your enterprise resource planning (ERP) system is only as good as the tool that accesses it.

After all, you've probably sunk several hundred thousand dollars or more into your implementation. In hardware, ERP application software, and databases. Not to mention consultants.

What do your business users see for all your efforts? One thing: the decision support tool. It's the window into all that work that enables users to make intelligent decisions. And the one piece of the puzzle most likely to drive the success—or failure—of your entire ERP effort.

Which is why you should take a hard look at Business Objects. We provide the industry-leading BUSINESSOBJECTS™ and WEBINTELLIGENCE™ full- and thin-client decision support solutions. Our award-winning products not only have the most integrated architecture; they also work with just about any leading ERP system or database you use.

But most important, they help customers get more from their ERP investment. In fact, 30 out of the top 50 Fortune 500 companies use Business Objects software to maximize the value of their corporate data.

Visit us today at www.businessobjects.com/value or call 1-800-527-0580 ext. 221 to see a multimedia demonstration of BUSINESSOBJECTS running on leading ERP applications. And, also find out how we've helped companies around the world get as much out of their ERP systems as they put into them.

And see what we can do for you.

BUSINESS OBJECTS®

First in Enterprise Decision Support™

©1998 Business Objects. All rights reserved. The Business Objects logo is a registered trademark and BusinessObjects and WebIntelligence are trademarks of Business Objects SA. All other product or brand names mentioned herein are trademarks of their respective owners.

Edited by Todd Datz

Plugged in

Internet Humor 18

Comic Relief 22

Name That Tune 22

Bright Future 24

In Their Own Words 24

Revenue Breakdown 24

Interview

Dummy Book, Smart Advice

WHAT CAN COMPANIES do to ensure smooth and profitable relationships with consultants? *CIO Enterprise* asked two experts: **Bob Nelson** and **Peter Economy**, co-authors of *Consulting for Dummies* (IDG Books Worldwide, 1998).

CIO: What mistakes do companies commonly make in selecting a consultant?
Economy: One of the biggest mistakes right off the bat is hiring a friend of a friend. When a company has a need for a consultant and somebody says, "Oh, I know somebody who can take care of that for us, let me give him a call." That's a real common mistake. I've seen that a lot out there in the business world—a friend of a friend comes in and doesn't really do a good job.

CIO: How can a company tell if a consultant really has the resources to service its account?
Economy: References are the best way to do that. Whenever I look for a consultant, I always ask for references, and I want real candid, honest, complete references. I want to know if they were able to service the client well and if the resources were there to service them expeditiously and with some talent.
Nelson: The best predictor of future performance is past performance. Ask the questions: "What other clients have you worked with that have experienced this problem? What did you do for them, and can we talk to a few of them?"

CIO: What's the key to maintaining financial and managerial control of a consulting project?
Economy: The key is to work very closely with your consultant. You should have a very clear picture of what you want that consultant to do.

ILLUSTRATION BY BEN FISHMAN

Brand Awareness

Popularity Contest

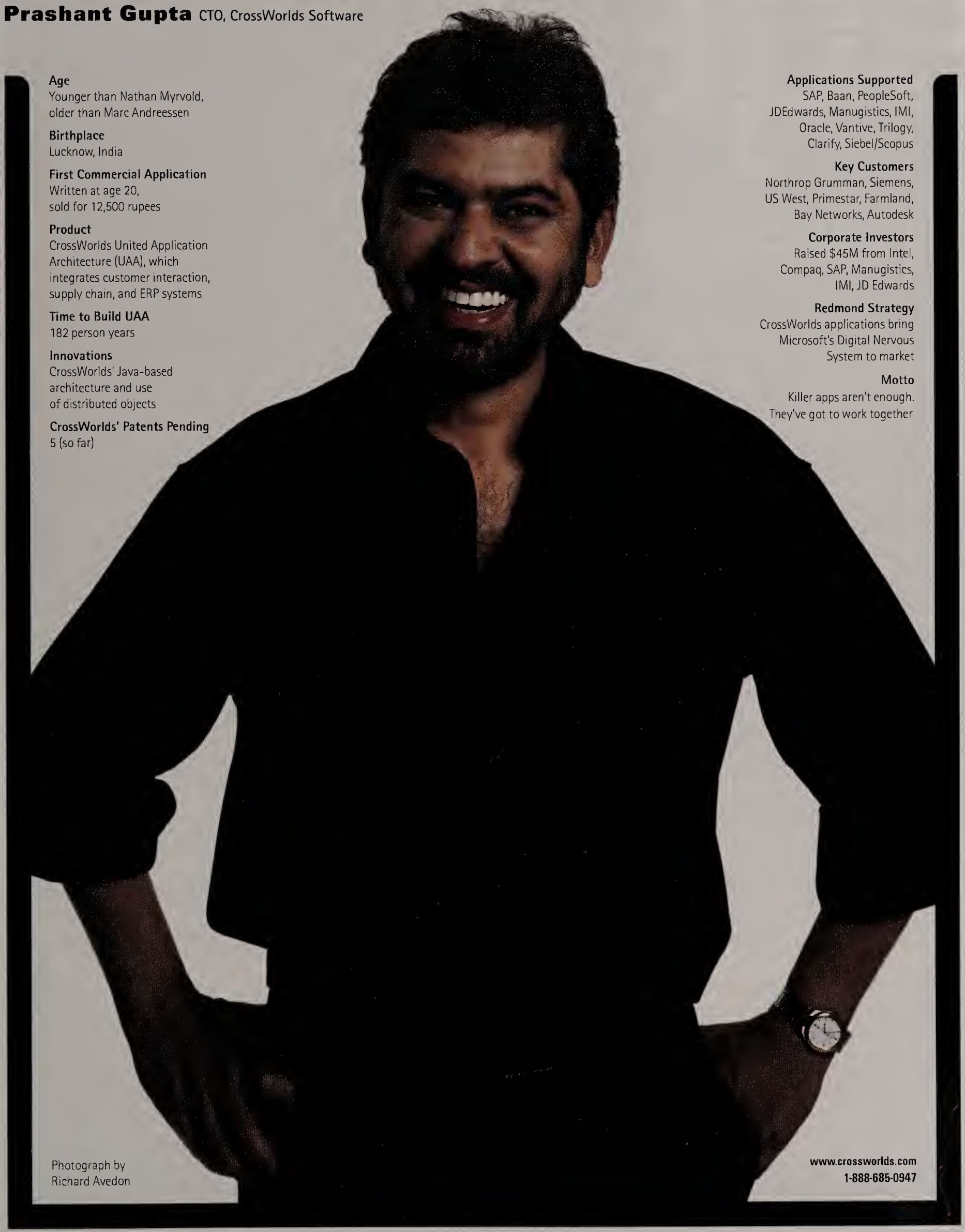
Business executives rate the most powerful consulting brands

INDUSTRY RANK	COMPANY	SHARE OF MIND RANK	SHARE OF HEART RANK	VALUE RANK	MOMENTUM RANK	IMAGE POWER RANK
1	Andersen Consulting	1	1	1	1	44
2	McKinsey	2	3	2	2	19
3	Booz, Allen & Hamilton	2	3	2	3	19
4	Boston Consulting Group	4	2	4	4	17
5	A.T. Kearney	5	5	4	5	12
6	Bain & Co.	6	6	6	6	10

SOURCE: 1998 LANDOR/HARRIS IMAGEPOWER SURVEY OF 500 SENIOR BUSINESS EXECUTIVES. CATEGORIES: SHARE OF MIND (AWARENESS AND FAMILIARITY), SHARE OF HEART (HIGH REGARD), VALUE (VALUE FOR MONEY), MOMENTUM (POTENTIAL FOR FUTURE GROWTH), SINGULARITY (OVERALL BUSINESS CHOICE). THE IMAGEPOWER INDEX COMBINES THE FIVE MEASURES INTO A SCORE THAT MEASURES OVERALL BRAND STRENGTH

ARCHITECT

Prashant Gupta CTO, CrossWorlds Software



Age
Younger than Nathan Myrvold, older than Marc Andreessen

Birthplace
Lucknow, India

First Commercial Application
Written at age 20, sold for 12,500 rupees

Product
CrossWorlds United Application Architecture (UAA), which integrates customer interaction, supply chain, and ERP systems

Time to Build UAA
182 person years

Innovations
CrossWorlds' Java-based architecture and use of distributed objects

CrossWorlds' Patents Pending
5 (so far)

Applications Supported
SAP, Baan, PeopleSoft, JDEdwards, Manugistics, IMI, Oracle, Vantive, Trilogy, Clarify, Siebel/Scopus

Key Customers
Northrop Grumman, Siemens, US West, Primestar, Farmland, Bay Networks, Autodesk

Corporate Investors
Raised $45M from Intel, Compaq, SAP, Manugistics, IMI, JD Edwards

Redmond Strategy
CrossWorlds applications bring Microsoft's Digital Nervous System to market

Motto
Killer apps aren't enough. They've got to work together.

Photograph by Richard Avedon

www.crossworlds.com
1-888-685-0947

Plugged In

Make sure they understand what you need done, get it in writing, set boundaries, set financial limits, set milestones of progress. Make sure that you're meeting with that consultant on a regular basis, whether it's daily or weekly.

Nelson: Have that be part of the contract for the work. Try to stagger [payments] over the course of the work, so that when a deliverable is made a financial payment [is triggered]. State very clearly that all payments are subject to 100 percent satisfaction.

CIO: In your book you discuss the consultant's "personal code of ethics." In your opinion, what is the most important ethic that should guide a consultant?

Economy: The real tendency of consultants is to make a problem when there's not a problem. It would be amazing to see a consultant walk into an organization and say, "You know what? You're doing things great! This is perfect; you don't need me!" That's all too rare. I think the most important ethic is honesty.

Nelson: I'd agree.... Truly an ethical consultant will, from the get-go, keep the onus on the client to learn [how] to solve the problem—to set them up for the day when [the consultant is] not around.

CIO: What does the prototypical consultant say to his or her reflection in the mirror every morning?

Economy: A consultant has to have a pretty strong ego. I think they look in the mirror and say, "Damn, you're good!"

Nelson: I worked with Ken Blanchard [co-author of *The One Minute Manager*] for 12 years, and one of his sayings that I loved was, "Don't let your ego eat your brain."

–Daintry Duffy

Internet Humor

Top 10 Things a Consultant Shouldn't Tell a Client

10. That was my first guess as well, but then I really thought about it. **9.** You should see the hotel I'm staying at. **8.** Hey, I just realized that I was in junior high when you started working here. **7.** I like this office space. I'll have them put me in here when you're gone. **6.** My rental car looks nicer than that junker you're driving. **5.** Sure it'll work; I learned it in business school. **4.** So what do you need me to tell you? **3.** Of course it's right. The spreadsheet says so. **2.** I could just tell you the answer, but we're committed to a three-month project. **1.** What are you, stupid?

Top 10 Ways to Know You're Dating or Married to a Consultant

10. Referred to first relationship as a "diagnostic period." **9.** Talks to waiter about process flow when dinner arrives late. **8.** Takes a half-day at the office because "Sunday is your day." **7.** Congratulates your parents for successful value creation. **6.** Tries to call room service from your bedroom. **5.** Ends any argument by saying, "Let's talk about this offline." **4.** Celebrates anniversary by conducting a performance review. **3.** Can't be trusted with the car—too accustomed to beating up rentals. **2.** Valentine's Day card has bullet points. **1.** Refers to lovemaking as a "win-win."

ILLUSTRATIONS BY BEN FISHMAN

Netscape®

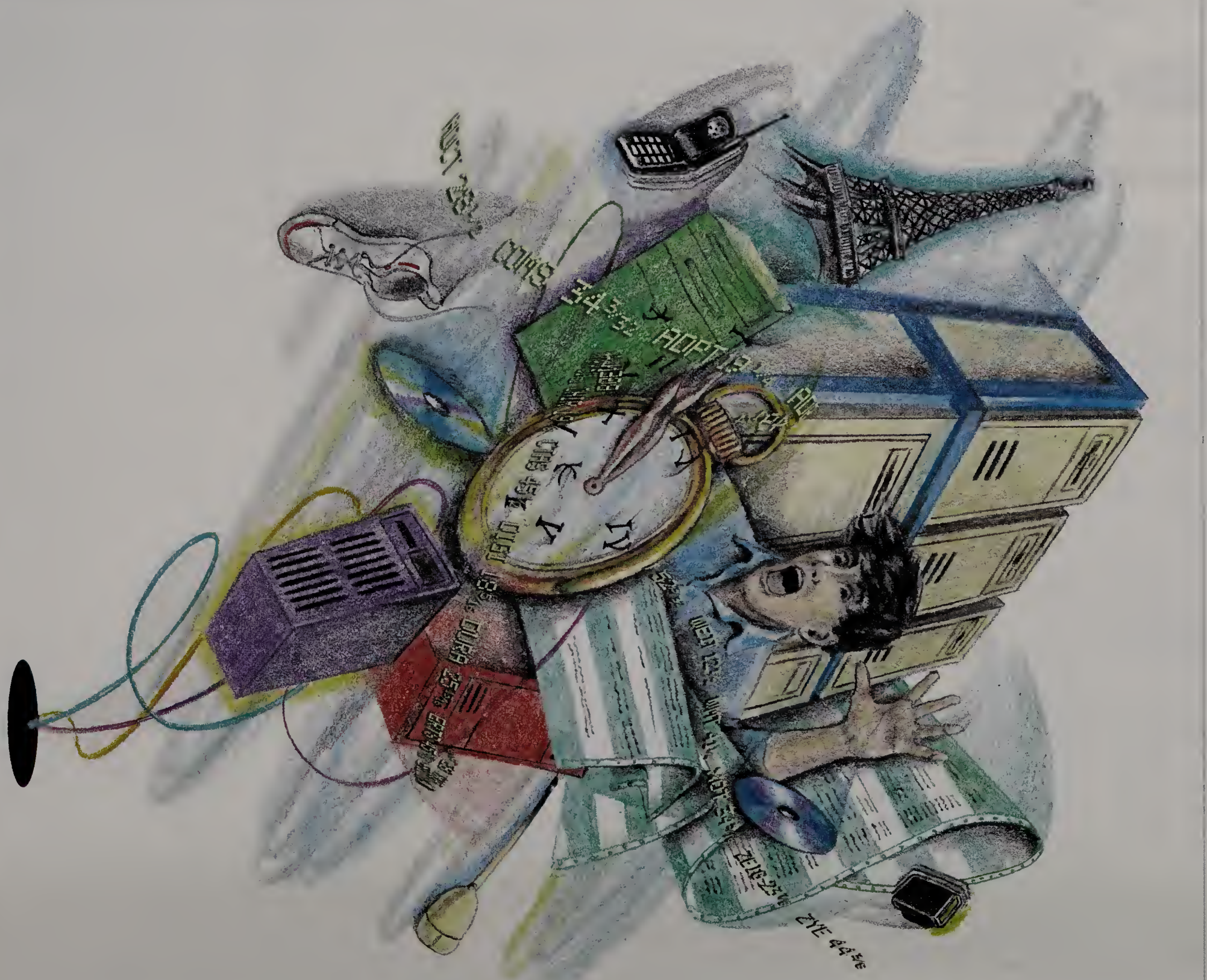
» *NOW PLAYING* **THE MARKET**

E*TRADE is a leader in the fiercely competitive world of online investing. How can they keep growing while fending off competitors? To maintain momentum as a category leader, they need the ability to introduce new services in Internet time. So we helped E*TRADE develop their online Mutual Fund Center in just eight weeks, giving them a critical lead; now customers can trade more than 4,000 top mutual funds. We also helped them build the system with the power to manage wildly fluctuating activity, and scale up quickly to meet demand. What makes it all possible? Netscape Application Server software. Today, there's no telling what business will break away from the competition with a Netscape solution. Learn more with a free information packet - call 800-957-9673 or visit home.netscape.com/breakaway/et

NETSCAPE®

©1998 Netscape Communications Corporation. Netscape and the Netscape logo are registered trademarks of Netscape Corporation. Netscape Application Server is also a Netscape trademark. E*TRADE and E*TRADE Mutual Fund Center are registered trademarks of E*TRADE Group, Inc.

Copyright 1998 FullTime Software, inc. All rights reserved. FullTime Software, the FullTime logo, Replace Downtime With FullTime, Qualix Group, the Qualix logo, QualixHA+ Solutions, the QualixHA+ logo, QualixHA+ Modules, Octopus, and the Octopus logo are registered or common law trademarks of FullTime Software. All other trademarks and tradenames are the property of their respective owners



website
www.fulltimesoftware.com/cio

I call it,

"THE IMPACT OF NEGATIVE AVAILABILITY

ON DISTRIBUTED SERVER RESOURCES"

...of course, my agent...the little witch, says

it won't sell because this...this new FullTime™

Software replaces downtime with fulltime

availability...I mean, give me a break...FullTime

is non-intrusive, adaptive, links virtually any

platform, eliminates hardware redundancy,

automates availability management, reduces

total costs and blah..blah..blah..until using

FullTime turns enterprise computing into a

competitive weapon—not to mention putting

me out of business...well, doo doo.

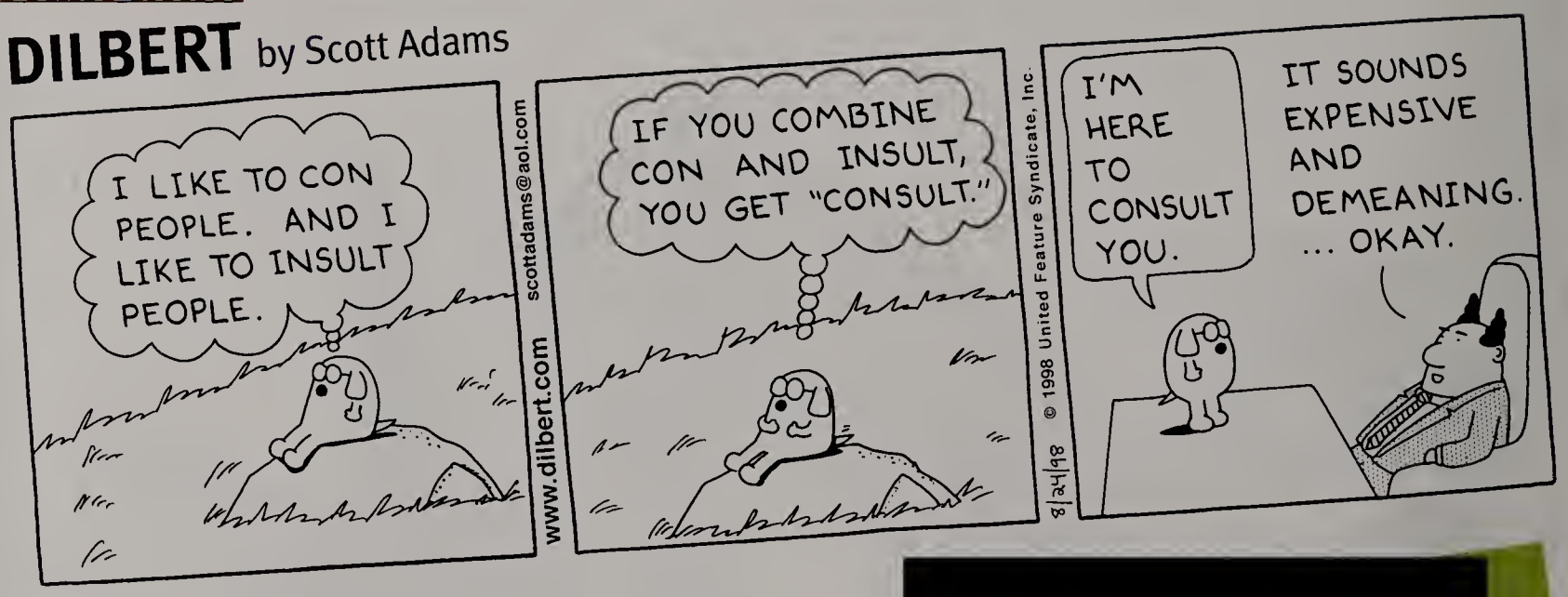
FULLTIME™ SOFTWARE

Replace Downtime With FullTime™

For details call anytime: 1 800 245 8649 ext. 3801

Comic Relief

DILBERT by Scott Adams



Number of times the word *consultant* appears in this issue:

427

Name That Tune

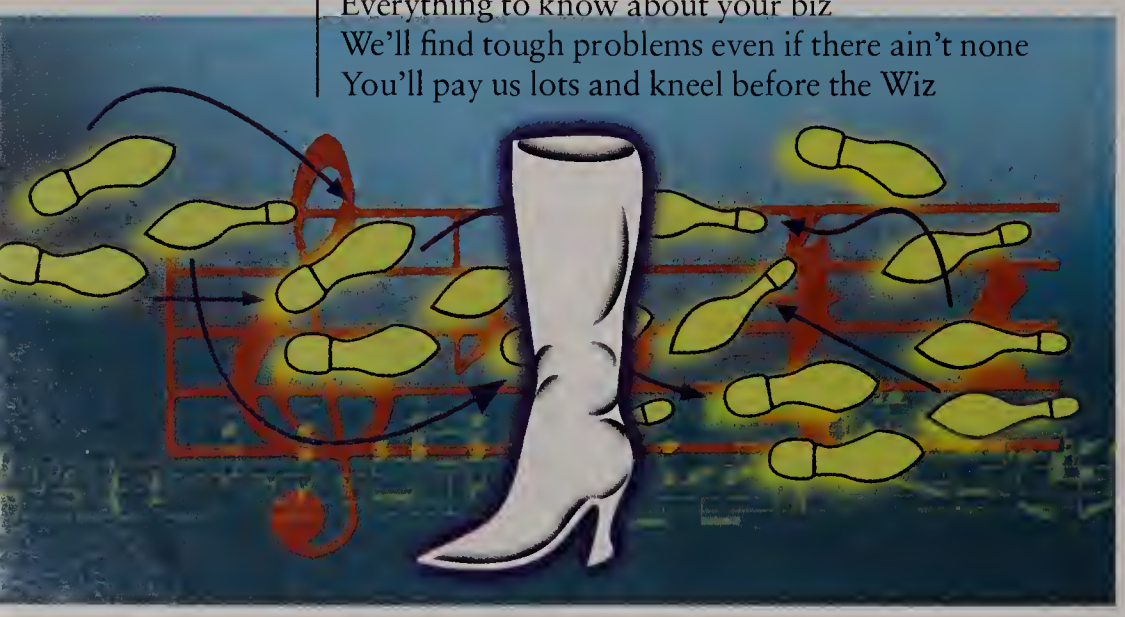
The Consultant Rag

IN HONOR OF OUR SPECIAL CONSULTING issue, a collection of homemade verse, sung to Nancy Sinatra's sexy, sultry, '60s hit, "These Boots Are Made for Walkin'"

We keep saying, we can help your comp'ny
Strategize and innovate the world
We'll value-add and integrate your bizness
And from our lips drop wisdom just like pearls

These suits are made for talkin'
And that's just what we'll do
We'll yap about old matrices
And make them sound brand new

You know we know much better than you do
Everything to know about your biz
We'll find tough problems even if there ain't none
You'll pay us lots and kneel before the Wiz



These suits are made for talkin'
And frequent billing, too
We'll explain core competence
Even though we lack a clue

I keep fussin' with my little PalmPilot
Takin' notes instead of doin' work
I got a feelin' I'll be stealin' all your secrets
Because, you know, that's just another perk

These suits are made for talkin'
We're masters of the schmooze
We'll sell you on a project
That'll make you sing the blues

You want a system? Listen to my game plan
I've got numbers and ROI to boot
Hardware, software, let me install the latest
Of course you need it—this ain't no warehouse suit!

These suits are made for talkin'
We're a shop of MBAs
Harvard, Stanford, Wharton
We've got tuition loans to pay

–Readers: We've obviously had a little bit of fun at the consulting industry's expense. If you'd like to respond (in verse), please e-mail us at letters@cio.com. *We'll publish the highlights.*

DILBERT REPRINTED BY PERMISSION OF UNITED FEATURE SYNDICATE INC. / ILLUSTRATION BELOW BY BEN FISHMAN

ONE SOLUTION.

e-VANTAGE™

Relax. Now There's A Pain-Free Host Access Management Solution For Evolving To e-Business. Attachmate® e-Vantage™ is the only solution that centralizes management of every host connection or custom web application across your entire enterprise. Without it, the complexities, pressures and uncertainties of evolving to e-business can overwhelm even the most savvy IT professional.

Attachmate e-Vantage gives you the power to manage your evolution to server-based e-business so employees, partners and customers get the information they need. It's the only solution compatible with IBM,® Java™ and Microsoft® standards—in any combination. Now you can go from traditional thick clients to thin with no hassles or security issues. And to make the transition even easier, we offer comprehensive consulting solutions, and back up e-Vantage with world-class technical support.

Find out why four out of five Fortune 500 companies and over 10 million users worldwide rely on Attachmate to boost productivity and reduce costs. Just call 1-800-933-6793 (ext 3630) or visit us on the Web at www.attachmate.com/ad/evolve1.asp for your free Web-to-Enterprise Solutions Guide.

Attachmate™
The Advantage of Information™

© 1998 Attachmate Corporation. All Rights Reserved. Attachmate is a registered trademark and e-Vantage and The Advantage of Information are trademarks of Attachmate Corporation. IBM is a registered trademark of International Business Machines Corporation. Microsoft is a registered trademark of Microsoft Corporation. Java is a trademark or registered trademark of Sun Microsystems, Inc. in the United States and other countries.

Plugged In

Bright Future

Growth Spurt

Fastest growing IT consulting firms by revenues (1996-1997)

FIRM	GROWTH RATE
Renaissance Worldwide*	148%
Sapient Corp.	84%
Technology Solutions Co.	69%
Ciber	68%
Whittman-Hart	67%
International Network Services	65%
Mastech Corp.	59%

*Fueled by nine acquisitions in 1997

SOURCE: *GLOBAL IT CONSULTING REPORT* / KENNEDY INFORMATION RESEARCH GROUP (603 531-3101)

In Their Own Words

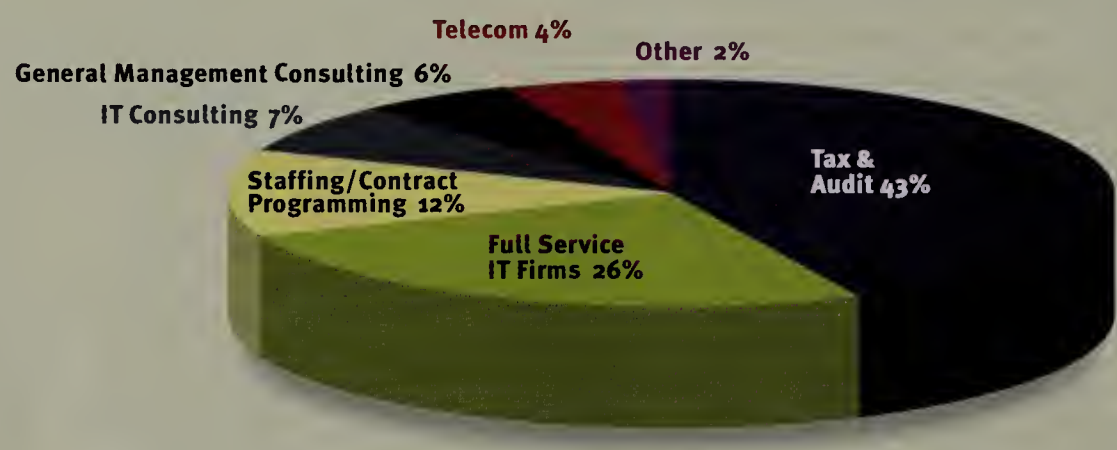
"With the labor shortages we have, they don't want to do maintenance. They want to implement, and they'll go out and find a new project whether we give it to them or not."

–DALE ANDERSON, PRESIDENT, PRAGMATEK CONSULTING, SPEAKING ABOUT CONSULTANTS

Revenue Breakdown

Taxing Profits

1997 GITC50 revenues by origin of firm



The GITC50 is *Global IT Consulting Report*'s largest 50 IT consulting practices by revenues

SOURCE: *GLOBAL IT CONSULTING REPORT* / KENNEDY INFORMATION RESEARCH GROUP (603 531-3101)

ILLUSTRATION BY BEN FISHMAN

AN ACTUAL SIDE-BY-SIDE COMPARISON OF OUR NETWORK SECURITY SOFTWARE AND EVERYBODY ELSE'S.

We hate to poke holes in the products from the leading firewall companies, but they're not as impenetrable as they'd have you believe. Only SecureZone™ from Secure Computing offers Serious Network Security. Serious Network Security is your assurance that your firewall will be as secure months or years from now as the day you installed it. That's a degree of security you just can't get from the competition.

SecureZone's patented Type Enforcement™ architecture provides a SecureOS™ for perimeter security that prevents unauthorized access between trusted and untrusted networks. In addition, only SecureZone offers Strikeback™ intruder response, which detects an attack and collects information on the attacker.

And only SecureZone employs a "region" model that allows you to manage security policy by grouping worldwide teams or roaming VPN users, into easily manageable items.

When it comes to network security, there's really no comparison. Call today and we'll be happy to show you all the holes in your system.

Trade-in anyone else's firewall software for SecureZone and you'll save 50% off the local list price.

SECURE COMPUTING

Serious Security™

www.securecomputing.com

1-800-379-4944

©1998 Secure Computing Corporation. SecureZone, Type Enforcement, SecureOS, Strikeback and Serious Security are trademarks of Secure Computing Corporation. All other trademarks or registered trademarks used herein belong to their respective owners.

Attend a free executive seminar on using digital strategies to win in the marketplace.

IBM AS/400 is pleased to sponsor an information-filled seminar featuring Larry Downes, coauthor of the best-selling business book *Unleashing the Killer App: Digital Strategies for Market Dominance*. This free seminar is for business executives who don't want to just plan for the future...they want to *own it*. For the date, time and location of a seminar in your area, call 1 800 IBM-7777 and ask for "Wave Tour" or visit www.as400.ibm.com/killerapps3

IBM

"I never knew how much I didn't know."

AS/400e = Data Mining

What does your data know that you don't? An AS/400e data mining solution lets users quickly spot patterns and trends, helping turn raw data into a competitive advantage. Its integrated database lets you get up and running faster. Learn more at www.as400.ibm.com/mining3

e-business tools

IBM, AS/400 and the e-business logo are either trademarks or registered trademarks of International Business Machines Corporation in the U.S. and/or other countries. Other company, product and service names may be the trademarks or service marks of others. © 1998 IBM Corp.

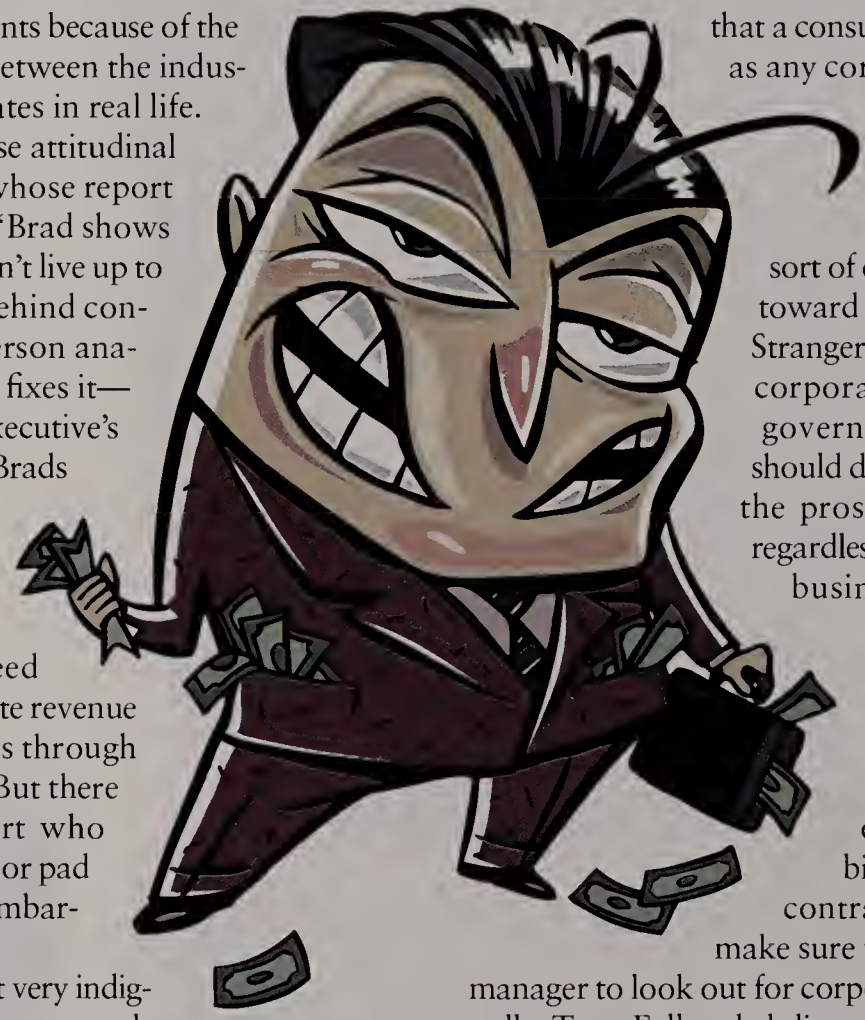
Walk the Walk

Got a problem with consultants? Stop complaining and put a little more muscle into managing them.

BY CAROL HILDEBRAND

CONSULTANTS. NOW THERE'S A SUBJECT RIPE for ridicule, if ever there was one. And an easy target, too. Consultants generate enough hot air to register on the top 10 list of global warming dangers. And yet, much as I yearn to, I can't hop aboard the consultant-bashing bandwagon. I could maybe hitch a ride on the bumper, but a front seat on the buggy? To quote John Cage, the eccentric lawyer on *Ally McBeal*, "It troubles me."

People like to mock consultants because of the disparity they sometimes see between the industry's premise and how it operates in real life. Consultants remind me of those attitudinal locker sheiks in high school whose report cards contained remarks like "Brad shows enormous promise, but he doesn't live up to his potential." The concept behind consulting—a smart, objective person analyzes a corporate problem and fixes it—sounds like the answer to an executive's prayer. But there are too many Brads in consultingdom who fail to deliver the goods—the new customer support system or the new financial software. Many consultants are indeed whip-smart people who generate revenue and save corporations millions through bright ideas, wisely executed. But there are also the less capable sort who promise what they can't deliver or pad their billable hours enough to embarrass even Dolly Parton.



CIOs and other executives get very indignant about alleged excesses from consultants, but one has to wonder just how fair that is. Executives sometimes seem to regard consultants as the human embodiment of the Trust Fall. Remember that hoary exercise from the 1980s, where you had to fall backward into the arms of coworkers and trust they would catch you? Many companies do the same thing with consultants. "Here," they seem to say, "take this million-dollar project and go do it. We won't bother with in-house oversight or meticulous contracts. We trust you."

It seems to me the responsibility for curing bad consultant behavior lies just as much with the customers as it does with the consultants—a combination of the old adage, "Physician, heal thyself," and that brand-new saying, "Patient, give thyself a stiff dose of accountability." After all, it's asking a lot of any company to selflessly and voluntarily curtail lucrative revenue streams, unethical or not. Don't forget that a consultancy exists to make money, just as any corporation does.

So what can be done? More than 80 percent of the CIOs who answered our survey agree that there ought to be some sort of organization to nudge consultants toward ethical work practices. (See "The Strangers In Your Midst," Page 30.) But if corporations think there ought to be a governing body for consultants, they should do something about it. You can bet the prospective governees won't. And regardless of any nascent watchdog group, business honchos need to put more muscle into managing consultants. Somebody should know what kinds of projects are in-house at one time to avoid redundancy. It's also a good idea to give one person or group the responsibility for negotiating all consulting contracts. Smart companies will also make sure that each project has an in-house manager to look out for corporate interests. It may be easier to pull a Trust Fall and abdicate responsibility for project success onto consultants, but companies that choose to give consultants too much control will probably pay more than they want for a project that does less than they need. CIO

Senior Editor Carol Hildebrand can be reached via e-mail at cjh@cio.com.

ILLUSTRATION BY PAUL GILLIGAN

Look what happened when Lexmark got a clearer picture of their business.

Recently, Lexmark International, a leading provider of printing solutions, made a decision that made everyone a lot happier—employees, suppliers and, most important, customers. They decided to integrate every stage of their supply chain. The goal? To assure customers consistent, on-time product delivery.

The solution? Customer focused processes and enterprise software from J.D. Edwards. Says Dr. Paul J. Curlander, President and Chief Executive Officer, "Keeping promises and delivering the best solutions is what Lexmark is about. J.D. Edwards is about the same thing. Every contact we had with them—from sales to implementation to software support—was with people who were committed to making the Lexmark story a success."

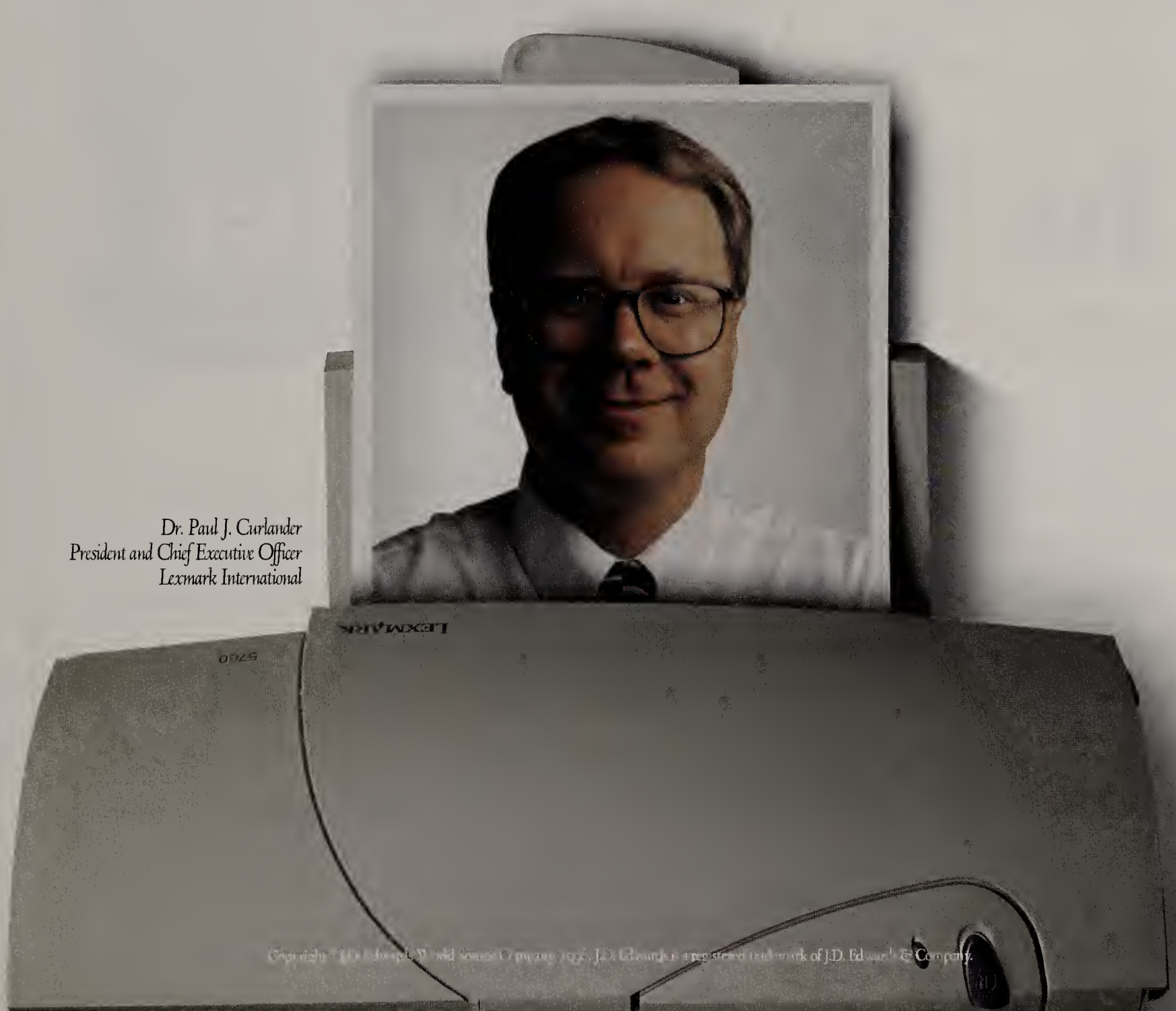
And that it is. The J.D. Edwards solution is key to helping Lexmark make major improvements in customer responsiveness and paving the way for long-term customer relationships.

And things keep looking better for Lexmark and its customers. Customer deliveries have improved three fold while cycle times have been reduced by over 70%. As Dr. Curlander says, "Because J.D. Edwards is a company that keeps its promises to customers, we're better able to keep ours."

That's how enterprise software ought to be. It can be for you, too. To find out more, call 1-800-727-5333 or visit www.jdedwards.com/customer.

JDEdwards®
Enterprise Software

How it ought to be™



Dr. Paul J. Curlander
President and Chief Executive Officer
Lexmark International

Copyright © 1999 J.D. Edwards World Source Company. J.D. Edwards is a registered trademark of J.D. Edwards & Company.

The Strangers In Your Midst

BY CAROL HILDEBRAND AND LEW MCCREARY

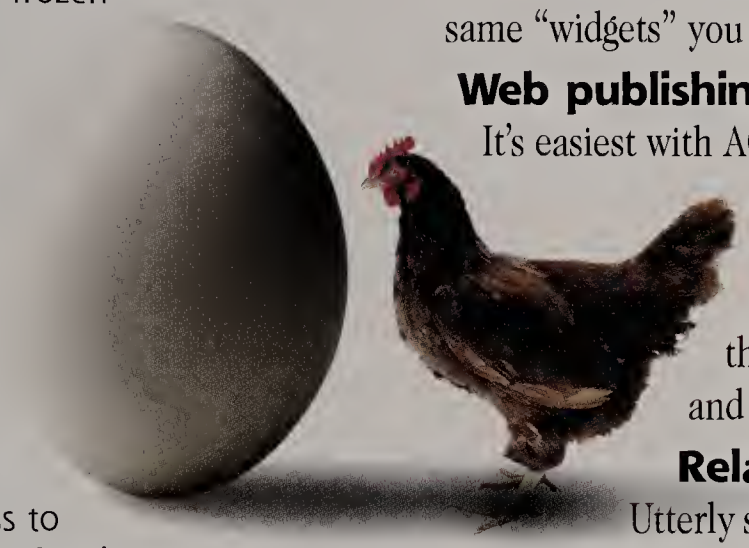
CIOs spend millions on IT consultants every year. So we polled readers to delve into their satisfaction with the consulting product and uncover their strategies for managing the people who provide it.

For all the money spent on consulting, shouldn't the customers be happier with the product? While our exclusive *CIO Enterprise* Consulting Study reveals broad "general satisfaction" with consultants (perhaps best interpreted as a vote in favor of the concept), it also shows high percentages

ILLUSTRATION BY ROBIN ZINGONE

It's baaaaaaaack: The new COBOL.

Which came first? Ask CSD (UK) and they'll tell you exactly when the chickens and the eggs (not to mention the kippers, frozen peas and other products in our food chain) got to or will arrive at your favorite supermarket or bistro. When it came time to update their distribution software, they switched to ACUCOBOL-GT because it provided open access to relational DBMSs from Oracle and Informix, and made it easy to create the more than 500 GUI screens their users required. And now everything is sunny-side up.



Actually, it never went away.

There are more lines of COBOL running than any other language, with billions of lines added every year.

And now with ACUCOBOL™-GT you can move those applications into the new millennium easily, often without changing a line of your current application code.

Want a modern GUI?

Just add it to your existing applications with our ACUCOBOL-GT WYSIWYG screen painter, using the same "widgets" you find in VB and other front-ends.

Web publishing?

It's easiest with ACUCOBOL-GT. Just add a hyperlink to your application or embed it in your page, then have your clients install our plug-in for their Netscape or Microsoft browser and you're done.

Relational DBMS access?

Utterly seamless with Acu4GL™. It executes COBOL I/O operations by invisibly generating SQL to get the answers you need, and supports identical source code across hardware platforms and RDBMSs including Oracle, Informix, Sybase and SQL Server .

Cross-platform capabilities?

We were cross-platform when Java was still a bean, and today ACUCOBOL-GT runs applications unchanged on over 600 UNIX and Windows platforms.

Which all adds up to the fact that you can enhance your users' interaction while reusing code you know is reliable because it's been running for years — your COBOL code, the ultimate reusable resource. Everyone from your maintenance staff to your CEO will love it.

There's more, so check out the details on our Web site or call today and let us give you the whole story.

It's the new COBOL. ACUCOBOL-GT.

ACUCORP™

(800) 262-6585/(619) 689-4450
http://www.acucorp.com
theNewCobol@acucorp.com

Acucorp, ACUCOBOL, Acu4GL, AcuODBC are trademarks of Acucorp, Inc. Other products and services mentioned are not. © Acucorp, Inc. 1998

of discontent with the ROI of consulting projects. Like lawyers, consultants provoke a knee-jerk reflex of suspicion and cynicism. Yet they continue to be employed as indispensable ingredients to the work of most organizations.

Under almost no circumstances is it easy to deploy technology on time, on budget and up to technical and business performance expectations. Whether an enterprise goes it alone or hires outside help in the form of an IT consultant, the chemistry is inevitably delicate, and the variables and obstacles are many. Small errors in judgment and execution can concatenate into large operational deficits, making it all the more important that, when a system is being midwifed by a consulting partner, the relationship between customer and service provider is close, candid and effective.

For which reason, we have put together this special edition on the consulting experience. Besides this overview of our survey, the assembled articles look at the changing face of the consulting industry, the best practices of customers adept at managing consultant activity and (since best practices are sometimes absent) a cautionary tale about projects that wound up in multiple rounds of litigation. (After reading our roster of sobering features, those in search of some comic relief should turn to "Let's Play Consultant!" Page 88.)

Priorities

Q: *Please characterize the types of IT-related consulting engagements your company has contracted for during the past year:*

	PERCENTAGE OF TOTAL RESPONDING
Systems development/integration	69.2%
Y2K compliance	43.5%
Web development/e-commerce	42.8%
Infrastructure design/enterprise architecture	35.6%
IT strategy	31.1%
Business process re-engineering	28.4%
ERP software deployment (SAP, Baan, etc.)	20.9%
IS group reorganization	12.2%
Change management initiatives	11.2%
Other	5.5%
None—have not engaged any IT consultants during the past year	3.2%

TOTAL RESPONDING: **402**

As a starting point for this issue, we developed a survey that we mailed to a random sample of 2,000 *CIO* readers—excluding consultants. Not surprising, the response rate was high—more than 20 percent (406 respondents) returned completed surveys. After all, respondents shell out a lot of dough on IT consulting every year (mean annual spending is $2.9 million, spread over an average of four different consulting firms). Just under 31 percent spend between $500,000 and $4.9 million; 5.7 percent spend between $5 million and $10 million; and nearly 16 percent total more than $10 million (see "Spending," Page 34).

The overwhelming reason for hiring a consultant is to obtain valuable expertise that is either not present internally or present in too-short supply (74.4 per-

INTRODUCING A PARTNERSHIP MADE FOR MANUFACTURING.

Manufacturing places special demands on ERP applications and the servers that run them. Fortunately, you can now run BaanERP software on the IBM® S/390,® creating a powerhouse for integrating and managing global operations with true flexibility. Virtually zero downtime. And a seamless, rapid implementation.

The combination of BaanERP on S/390 also allows you to leverage your existing investment in S/390 infrastructure, helping reduce the overall cost of ownership. Lower costs, in turn, can lead to increased profitability, giving your company a distinct competitive edge in today's fast-moving global economy.

BaanERP and the IBM S/390. The solution that can make a difference on your production line–and your bottom line–at the same time. Call 1-888-657-5868 or visit www.baan.com/IBMS390 for more information today.

BaaN

IBM Business Partner

The IBM logo is a registered trademark and the IBM Business Partner emblem is a trademark of International Business Machines Corporation and are used together under license. S/390 is a registered trademark of IBM Corp. ©1999 IBM Corp. BaanERP is a product of the Baan Company and is licensed solely under Baan's license terms and conditions. IBM and Baan are separate companies and each is responsible for its own products. Neither IBM nor Baan makes any warranties, expressed or implied, concerning the other's products, including any warranties of Baan 2000 [illegible]

Spending

Q: *Please estimate the annual dollar value of your company's IT-related consulting contracts:*

	PERCENTAGE OF TOTAL ANSWERING ▼
Under $500,000	41.4%
$500,000 to $999,999	12.4%
$1 million to $4.9 million	18.4%
$5 million to $10 million	5.7%
More than $10 million	15.9%
Don't know	6.2%
MEAN	$2.9 million
TOTAL ANSWERING	403

cent). The top three categories of activity (see "Priorities," Page 32) are "systems development/integration," "Y2K compliance" and "Web development/e-commerce." And 71 percent of respondents are themselves responsible for managing at least some of their businesses' consulting engagements.

Although consultants can account for a significant amount of the sponsoring executive's time and budget, the survey tells a tale of mixed feelings about the results organizations reap from their rented brains. For example, 85 percent of respondents said they were generally satisfied with the results of consulting engagements. But when we dug beneath the surface and asked their level of satisfaction with the ROI of those engagements, 73 percent reported being only somewhat, not very or not at all satisfied; only 27 percent said they were very or extremely satisfied (see "Happiness," Page 35). Moreover, 63 percent reported that their internal staff does a better job than consultants. In fact, 61 percent said that they have fired a consultant. Why? The two most prevalent reasons cited in our survey were that the consultant's work was substandard or the consultant lacked vital hardware

No matter what size your world is, MCI WorldCom On-Net can help you manage it more effectively. Whether your needs are local, regional national or international, you deal with one network and one company. No handoffs to other carriers.* So the service and products are always consistent from market to market. For example, your local service or high-speed Internet access works the same way in Tulsa as it does in Paris

*Only MCI WorldCom owns the entire network from origin to destination in many locations worldwide. MCI WorldCom is traded on NASDAQ under WCOM. For more information on MCI WorldCom, visit our web sites at mciworldcom.com and wcom.com. © 1998 MCI WORLDCOM, Inc. All rights reserved.

and software skills.

The apparent ambivalence about consultants is fascinating (and we invite your interpretations of it as well). To us, it seems to reflect two factors: The first is that respondents sympathize with consultants because CIOs, in particular, are in a position to understand how devilishly hard it is to get technology right and to have it live up to expectations. In other words, they know from experience how hard it is to satisfy their own internal customers. Second, they are smart enough to know that the customers, too, bear some culpability for project failures, and they are thus unwilling to hang the blame exclusively on consultants. (We find this apparently complex understanding of accountability to be heartening-ly mature. On the other hand, that very maturity risks fostering a chummy identification between customer and consultant.)

Respondents also have issues with the cost of services. While it's traditional to complain about the high price of almost everything, fee griping is simply another way to reflect concern about ROI. Slightly more than 17 per-

Happiness

Q: *Please rate your degree of satisfaction with the ROI of consulting engagements:*

	PERCENTAGE OF TOTAL ANSWERING ▼
Extremely satisfied	1.5%
Very satisfied	25.3%
Somewhat satisfied	56.5%
Not very satisfied	14.2%
Not at all satisfied	2.5%
TOTAL ANSWERING	395

One company also means one dedicated account team to handle all of your communications needs. Whether those needs span cities or continents. Further, by combining all of your services with us, you'll receive volume discounts. All of which makes things run a little more smoothly in your world. Big, small or anywhere in between. Introducing MCI WorldCom On-Net. For details. visit mciworldcom.com

Vices

CIO came up with a list of attributes that characterize consulting firms and asked respondents to indicate, based on their own experiences, how widespread they believe these attributes are. The following table summarizes how common or rare each attribute is in terms of their mean scores, where 1=extremely common and 5=extremely rare:

	MEAN (COR ▼)
Have senior partners pitch an engagement but junior people execute it	2.08
Use an initial engagement to expand presence elsewhere in the company	2.12
Resell technology that they themselves recommend	2.38
Use knowledge gained from your project to sell their services to competitors in your industry	2.41
Manifest a conflict of interest between their obligations to the client and their own profitability	2.98

1 = Extremely Common

5 = Extremely Rare

cent of those surveyed were either very or extremely satisfied with the fees consultants charge. The rest were either somewhat (56 percent), not very (23 percent) or not at all (3.5 percent) satisfied.

Moreover, respondents exhibited a certain jaundiced acceptance of some consultant attributes that may undermine the consultants' ability to balance client obligations against their own profit objectives (see "Vices," above, and "Virtues," Page 37). Just to name a few: Nearly 70 percent say it's par for the

One seamless global network. Only one company has it. MCI WorldCom. Which means, your data gets to where it has to go without handoffs to other carriers. Whether your needs are local, national or international, you deal with one network, owned and operated by one company. MCI WorldCom.* How do we do this, you ask? Simple. By building hundreds

*Only MCI WorldCom owns the entire network from origin to destination in many locations worldwide. MCI WorldCom is traded on NASDAQ under WCOM. For more information on MCI WorldCom, visit our web sites at mciworldcom.com and wcom.com. © 1998 MCI WORLDCOM, Inc. All rights reserved.

course when senior partners pitch the project but then staff it with junior employees; about the same percentage say consultants use one project as a beachhead for expanding their presence elsewhere in the client company. Just under 60 percent think it's common for consultants to use knowledge gained from projects to sell their services to the respondents' competition. Another 60 percent or so say consultants risk a conflict of interest in reselling technology that they themselves recommend. (By contrast, the highest ranked consultant virtue—that they "apply insight and energy to overcome an otherwise

Virtues

	Mean score*
[illegible] energy to overcome otherwise insoluble problem	2.99
[illegible] heartbeat	3.01
[illegible] you don't want to hear	3.30
[illegible] they recommend	3.96
[illegible] their approach is unsuited to your needs	3.98

MCI WORLDCOM

of metro area fiber networks around the world. By linking the U.S. and Europe with the most advanced underwater cable ever constructed. By owning local facilities in more than eighty U.S. markets. By never letting anything stand in the way of providing you the best possible service. Voilá! Introducing MCI WorldCom On-Net. Visit our Web site at mciworldcom.com

insoluble problem"—drew a 28.2 percent nod of assent.)

Given the ostensibly widespread perception of consultant foibles, coupled with a less-than-stellar satisfaction rate with consultant results, one would expect executives to be indignant about consultant behavior. Indeed, 83 percent of respondents thought consultants should be governed by a code of professional conduct. But they disagreed on how this code should be administered: About 40 percent favored an independent licensing association; 18 percent proposed self-policing; 2.5 percent thought the government should create a consultant regulatory agency; and 42 percent thought this code should be built into contracts.

And speaking of contracts, about half of our respondents said their enterprises have a central mechanism for negotiating and reviewing contracts. Fewer than 40 percent favor contracts based on time-and-materials (see "Fee Models," Page 39, and also see "Methods of Payment," Page 92). But when it comes to managing the consulting projects once that contract is signed, many companies take a slightly laissez faire attitude. While roughly 60 percent of those surveyed said that the management of consultants was regarded as an important competency, a large minority (42 percent) said

You're an IT manager. Your office is constantly full of people who need your help. On top of that, you have to manage the separate transport for local, long distance and international data and voice needs. MCI WorldCom has a very simple answer: on-net. On-net combines all of your voice and data traffic onto one global network. The only global

*Only MCI WorldCom owns the entire network from origin to destination in many locations worldwide. MCI WorldCom is traded on NASDAQ under WCOM. For more information on MCI WorldCom visit our web sites at mciworldcom.com and wcom.com. © 1998 MCI WORLDCOM, Inc. All rights reserved.

that their organizations have no formal structures in place for doing this. Projects tend to be managed individually, by different managers, allowing for redundancy and conflicting project goals—particularly since 67 percent of respondents claimed no central point of contact exists in their companies to collect information about consulting activities. (In fact, slightly more than 40 percent said they knew of cases of conflict and redundancy.)

Fee Models

Q: *Please indicate which fee basis most often applies in your company's consulting contracts:*

	PERCENTAGE OF TOTAL ANSWERING ▼
Time and materials	38.2%
Time and materials, but with a fee cap	31.9%
Fixed fee	27.9%
Other	2.0%

TOTAL ANSWERING **401**

Looking at the numbers overall, it's not surprising that consulting activities sometimes stray into territory that appears to be far more beneficial to the consultants than to their purported customers. Indeed, if executives—IS and business alike—fail to keep a sharp eye on these strangers in their midst, they should brace for bumpy rides. CIO

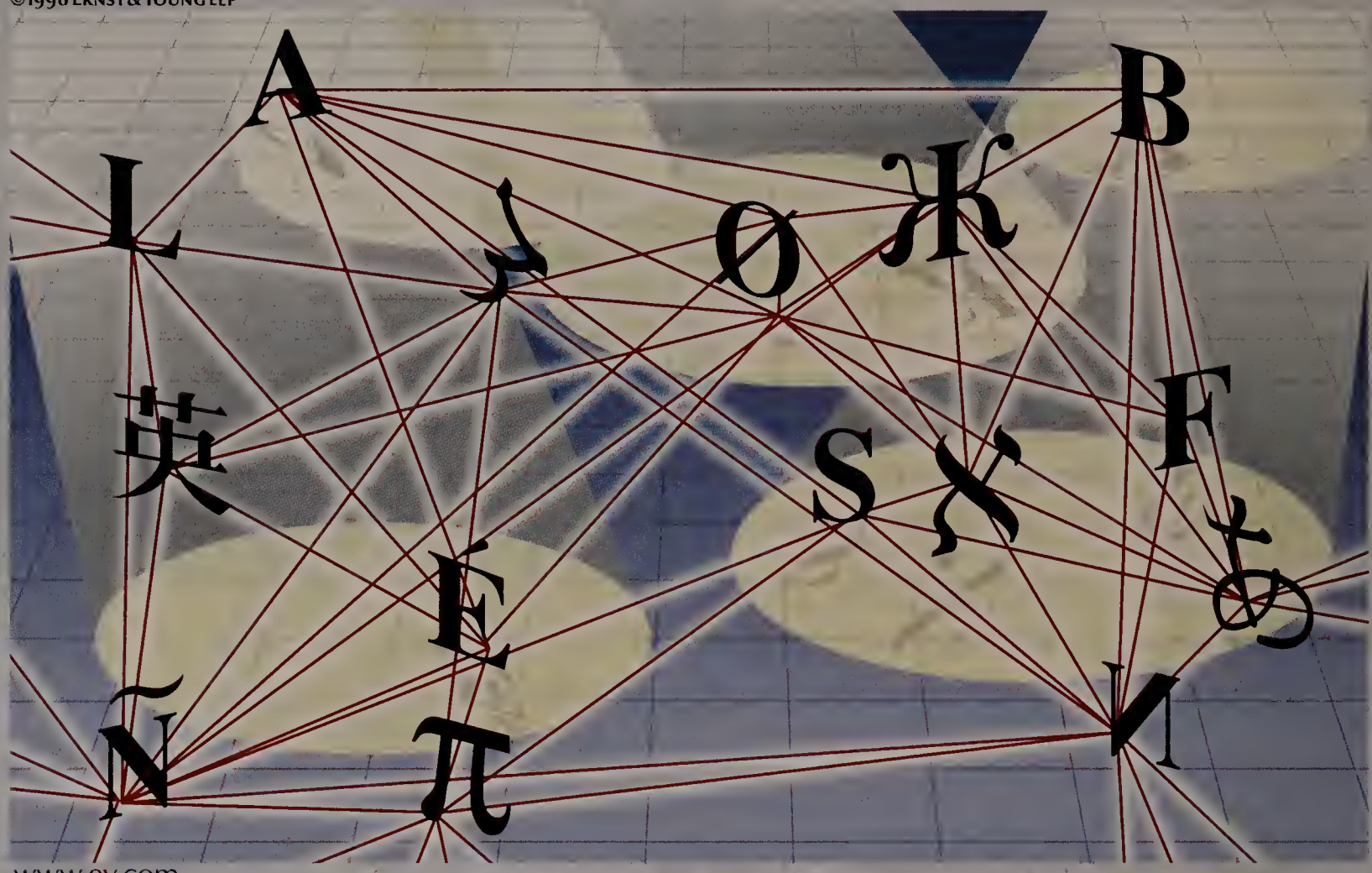
Senior Editor Carol Hildebrand can be reached at cjh@cio.com. *Editorial Director Lew McCreary can be reached at* mccreary@cio.com.

contract. One very happy IT manager.

MCI WORLDCOM

network owned and operated by a single company.* So whether your needs are local, national or international, you deal with one contract and one account team. Period. You'll still have to help all those people in your office. But at least now there's someone around to help you. Introducing MCI WorldCom On-Net. Visit our Web site at mciworldcom.com

©1998 Ernst & Young LLP



Remember When The Challenge Was Getting From Point A To Point B?

A growing number of multinational corporations are now based in the same place:

The entire world.

And a high percentage of them are Ernst & Young clients.

Not only because we provide them with a full range of professional services. But because in everything from information technology to global tax consulting,

www.ey.com

we also offer the advantage of a single point of contact coupled with thorough local knowledge and implementation capabilities.

This level of service allowed us to create a cross-border tax strategy for a U.S. bank that saved $12 million in a single transaction. Through a process transformation project, we helped a multinational manufacturer accelerate its product development cycle time by 30%. And, by working with a major technology company on its global supply chain, we helped it save $68 million.

These are just a few examples of the kinds of results we've helped generate for our clients.

So whether your company is already a citizen of the world or just beginning to expand, we hope you'll call.

As part of a worldwide organization that has 80,000 people in 130 countries, we can make doing business anywhere as easy as π.

ERNST & YOUNG

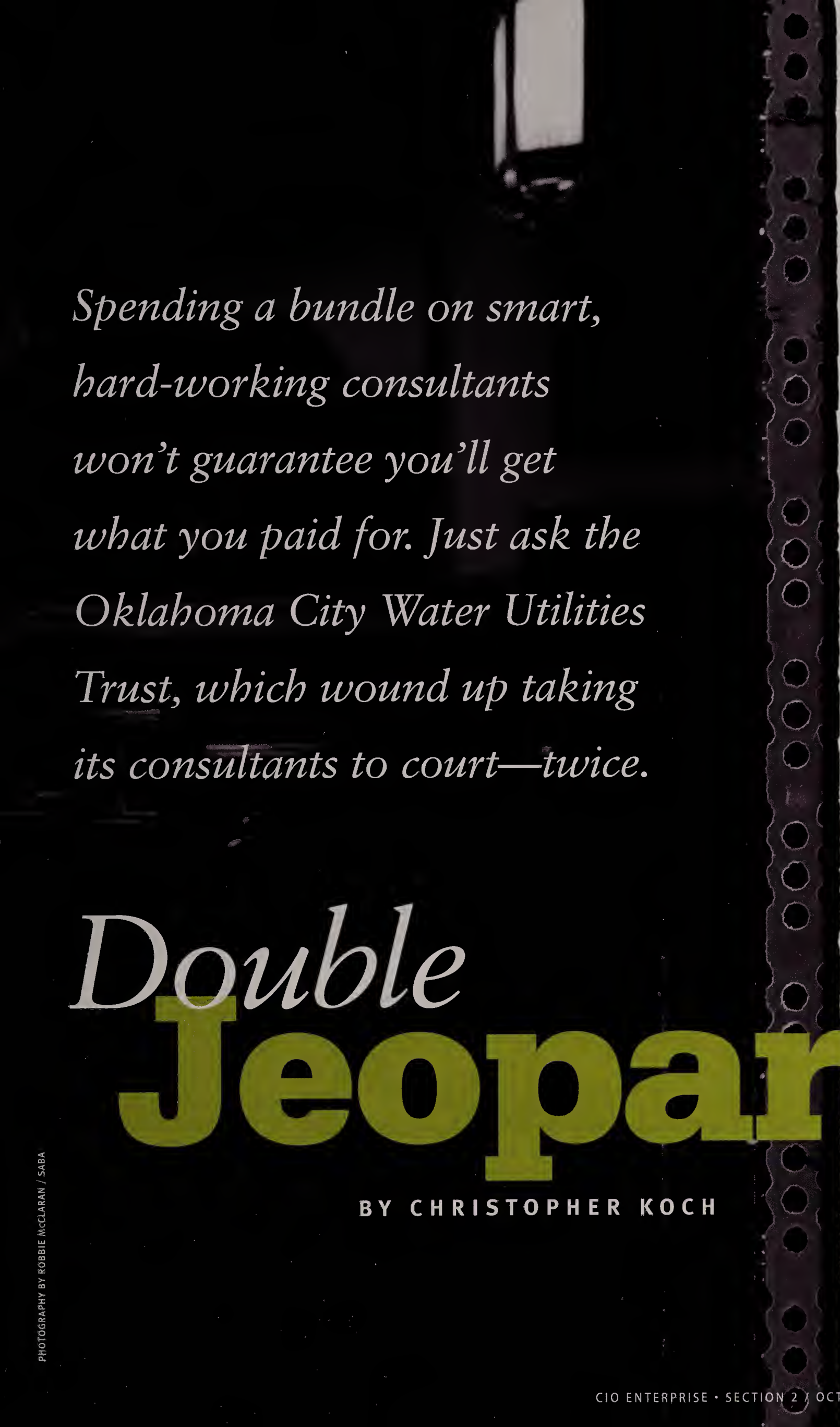
CONSULTING NIGHTMARES

Stacey Davis, utility customer services superintendent

Reader ROI

BY READING THIS STORY YOU'LL LEARN

- How to discern consulting project trouble signs
- How to ferret out the reality behind consultants' promises
- How to stick to project requirements



Spending a bundle on smart, hard-working consultants won't guarantee you'll get what you paid for. Just ask the Oklahoma City Water Utilities Trust, which wound up taking its consultants to court—twice.

Double Jeopardy

BY CHRISTOPHER KOCH

PHOTOGRAPHY BY ROBBIE McCLARAN / SABA

Ernie Aschermann is a good software salesman. He knows how to pitch and he knows how to write code—a rare combination of talents in the software industry. On Jan. 16, 1992, he had a rapt audience in the managers of the Oklahoma City Water Utilities Trust, the public corporation that sells water to the citizens and businesses of Oklahoma City.

Desperate to replace its antiquated customer-billing system, the Trust had invited Aschermann and his sales sidekick, Steven "Pax" Darlington, to give a demonstration of a utility-billing program developed by their company, Network Computing Corp. (NCC). In a small conference room at the Trust's headquarters, Aschermann delivered an impressive presentation. He practically finished the Trust people's sentences for them, showing off his knowledge of the water utility business and his software know-how.

After building up the Trust's expectations, Aschermann finally hit a button on his laptop and the screen filled with arcane references to utility-billing functions. "What I want to show you now is Affinity Revision One," he said. "I'm going to show you this because number one, I don't want you to go away with the impression that there's anything that doesn't exist—any smoke or mirrors." Then he drove the "trust me" point home with a bit of self-deprecating humor. "What's that joke about computer salesmen and car salesmen? At least the car salesmen know when they are lying?"

During the disastrous software project that followed, questions arose as to where Aschermann and Darlington fit in that sales spectrum. Allegations of misrepresentation and fraud would land NCC in court a few years later, where a jury decided that the two men might, in fact, have made great car salesmen. Even within the Charlotte, N.C.-based software company, Aschermann's colleagues had their doubts about his Affinity sales pitch, referring to it from the beginning as "smoke and mirrors." George Mackie, who was president and CEO of NCC at the time, charged that Aschermann "was stretching the truth to his favor."

Unstretched, the truth was that Affinity Revision Two (or Affinity 2.1), which the Trust would later buy from NCC for $1.3 million, was far from being fully developed, contrary to the impression left by Aschermann and Darlington that day. The Trust became an unwitting beta site for a desperate, financially troubled software company that needed a big sale to stay afloat.

Knowing his sales pitch was being videotaped didn't keep software salesman Ernie Aschermann (second from right, under clock) from stretching the truth to his favor.

Ironically, the ensuing catastrophe was not the first of its kind for the Trust. As the NCC salespeople spun their tale in the Trust's conference room, across town the Trust's hired-gun lawyers were busily preparing legal documents for the Trust's case against Peat Marwick Main & Co. (now known as KPMG Peat Marwick LLP), the accounting and consulting firm that had tried and failed to develop a custom-billing program just a few years prior. Like the NCC debacle, that case also involved an unproven software product encased in a sweet, candy-coated sales shell. The complex software overwhelmed Peat Marwick's well-meaning software developers and the Trust's expensive new computer system dissolved—like the project—leaving a bitter taste in everyone's mouth.

That's why Stacey Davis, utility customer services superintendent for the Trust and the lead business person on the utility-billing system project, decided to videotape (with the vendors' permission) the sales pitches from NCC and the three other vendors who came to the Trust in early 1992 offering to pick up where Peat Marwick had left off. Davis was prescient, it turned out. A five-minute "highlight tape" from NCC's presentation became one of the most powerful pieces of evidence during the Trust's second civil trial against the unfulfilled promises of software vendors and consultants.

The Trust's 10-year saga of failed software projects and legal wranglings is a cautionary tale for any company contemplating a large, complex software installation using consultants. The story of the Trust shows just how easy it can be for these projects to go horribly wrong and how bittersweet revenge can be when administered through the courts.

Even more disturbing is the fact that Davis and his colleagues at the Trust are not naive. Most had been through software implementations before the big troubles began. In both projects, the Trust took the standard precautions to

VIDEO STILL COURTESY OF THE OKLAHOMA CITY WATER UTILITIES TRUST

When the Boeing Delta IV team wanted a strategic Internet partner, USWeb had the right stuff.

USWeb Internet strategies and Microsoft technology are helping the Boeing Delta IV team cut the cost of launching a payload into space.

The Boeing Delta IV program is revolutionizing how satellites are put into orbit. So when they wanted strategic Internet expertise, they selected a partner with the same pioneering spirit.

The USWeb team worked with them in many areas, from analyzing infrastructure requirements and data flow, to expanding their data center and document management system. By finding new ways to harness technology, we're supporting the Boeing Delta IV team's goal of providing more launches with more options to more companies than ever before.

Our strategic partnership with Microsoft gave us the best technology for integrating data systems, technologies and team members in different cities and on different platforms. The bottom line benefits? Increased collaboration and data utilization, plus streamlined IT resources.

Microsoft®

Toshiba, NBC and REI—just a few of the many different types of clients who've turned to USWeb to gain a competitive edge. Not to mention 27 of the Fortune 100. We're a full-service Internet consulting firm with a broad range of expertise in everything from strategic planning to network operations and security, to brand development and award-winning design. A single source for all your Intranet, Internet or Extranet solutions.

So launch your own strategy with USWeb. Call or visit our Web site and learn how we can be your strategic partner for the information age.

Read our white paper *Success in the Internet Economy:*
www.usweb.com 1-888-USWEB-411, EXT. 92

USWEB™

©1998 USWeb Corporation. USWeb, the USWeb logo and A Strategic Partner for the Information Age are trademarks of USWeb Corporation.
All other registered trademarks or trademarks are the property of their respective owners. All rights reserved.

avoid disaster: clear, detailed requests for proposals (RFPs); exacting contracts that outlined specific deliverables, milestones and dates; full-time project staffers from the business and technology sides of the Trust; and high-level project steering committees that met regularly with the consultants on both projects. Nor were the consultants evil charlatans. Most were dedicated, experienced, talented people. And still both projects ended with unworkable software and angry recriminations on both sides. The Trust's story is a shocking testament to the ravages of complexity and to the need for businesses to impose radical, almost irrational, levels of control over the management of these projects to avoid major delays, cost overruns and breakdowns.

ACT ONE: A BIG EIGHT *blunder*

THE TRUST'S PAINFUL SAGA began in 1987, when it resolved to find a replacement for its already obsolete '70s-era mainframe computer. The Honeywell-Bull system was an expensive technological antique that cost $30,000 or more per month to maintain, according to Davis, and cost Trust staffers precious hours of lost productivity. It was impossible to look up customers by name in the system, for example. Any problems not linked to an account number meant a walk to the research desk, where a massive printout of the Trust's 170,000 customers sat waiting to waste everyone's time.

That's why the Trust decided to bring in Peat Marwick to help figure out what to do with old Bessie. After scanning the software landscape for options, Peat came to the fascinating conclusion that the best software solution was its own. On the surface, Peat's proposal did indeed look good: a custom-developed software program that would have all the functionality the Trust needed and then some, as well as a fancy new Digital computer, all for $2.6 million. Even better, if Peat could sell the new software to other utilities around the country, the Trust would receive royalties to help defray project costs.

Yet behind the scenes, all was not well with the proposed project, says Ralph Shay, who would become Peat Marwick's first manager on the project. Shay had heard rumblings within Peat Marwick that the computer Digital had recommended for the project, the VAX 6220, would not be able to handle the large, complex application being proposed to the Trust. The computer choice was critical to the success of the project, because the software did not yet exist and therefore could not be tested to see how much processing power it would consume. But the Trust could not afford to wait before buying a new machine, says Davis, since it did not own a computer powerful enough to handle the software development project, let alone run the finished software. The computer and the software would need to run together seamlessly; the Trust was on a fixed budget and could not afford to swap out the computer for something more powerful (and expensive) once the project got going.

But the Trust had reason to believe that the 6220 was the right machine for the job. Before it became the project consultant, Peat had been hired to coordinate the Trust's formal search for new hardware and had recommended Digital, which proposed the 6220. Peat Marwick tried to distance itself from that recommendation during contract negotiations with the Trust, but things only got muddier when both sides' lawyers got involved and inserted a murky accountability clause in the heart of an otherwise clear contract. The Trust bought the 6220 at the same time it signed on with Peat in November 1988. Both parties forged ahead blindly, each assured that the other was legally responsible for any computer problems that arose.

But those who worked on the project for Peat Marwick say the company's project leadership was more aware of the potential for problems than it let on during contract negotiations. Shay says he made his concerns clear to Larry Lott and Thomas Gorley, his project superiors at Peat Marwick, in a series of meetings in Lott's Dallas office before the contract with the Trust was signed. "We discussed quite a bit the fact that only one of us on the project team had experience with the combination of hardware and software we were proposing," he says. "That combination represented an unknown and a risk."

The new technologies didn't bother him so much as the computer. "We could learn the new software, but there was a lot of risk in proposing a system that had already been locked into a processor," he explains. "We felt we could make it work, but there was still a lot of risk." In sworn depositions taken in 1993, both Lott and Gorley would deny that they had spoken with Shay about the ability—or lack thereof—of the 6220 to run the proposed software prior to signing the contract with the Trust.

Peat was also having problems with its new computer-aided software engineering (CASE) tool, Goldrun, that would generate the computer code for the Trust's software program. The lone Peat Marwick developer on the Trust project who had experience with Goldrun, Bill Blessing, claims that before the contract was signed, he warned Lott, Gorley and the Trust that Goldrun used bytes like a Sherman tank uses gasoline. During a prior project at an insurance company in Kansas City, Blessing says the application that he helped develop with Goldrun consumed so much processing power that the client had to trade in its Digital 6000 series computer for a 9000 series machine, which was roughly five times as powerful and almost three times as expensive as the 6220. "I knew [the application] would never run on the 6220, and I told many people on both the [Trust] and on the Peat Marwick side my concerns," says Blessing. Those concerns went unheeded.

To Davis, the hardware dance was irrelevant. He focused on the "acceptance testing" portion of the contract that bound Peat to explicit software performance requirements. Peat was obligated to provide a software program capable of getting information from the 6220 to the terminals of his customer service representatives in two seconds or less, and the system needed to crunch

The color of determination.

IMAGEANYWARE℠ is a service mark of Canon U.S.A., Inc. © 1998 Canon U.S.A., Inc.

Our color laser copiers and printers reproduce subtle colors perfectly on any network – even a color as stubborn as determination.

It's what has set us apart since we introduced laser color eleven years ago. Canon Laser Color. Its only competition is reality.

imageANYWARE℠

1-800-OK-CANON, www.usa.canon.com

Canon

Tivoli is a registered trademark, and The Power to Manage. Anything. Anywhere. is a service mark, of Tivoli Systems Inc. in the United States and/or other countries. In Denmark, Tivoli is a trademark licensed from Kjøbenhavns Sommer - Tivoli A/S. Tivoli Systems Inc. is an IBM company. IBM is a trademark of International Business Machines Corporation in the U.S. and/or other countries. @Home Network, @Home and the @ logo are trademarks of At Home Corporation and may be registered in certain jurisdictions. UNIX is a registered trademark in the United States and/or other countries licensed exclusively through X/Open Company Limited. ©1998 Tivoli Systems Inc.

The Power to Manage. Anything. Anywhere.℠ **Tivoli**

High-speed Internet access by @Home Network.™

Looking for faster Internet access and richer content?

@Home Network not only found a way to deliver both, but to manage them as well. Using high-speed cable modems linked to existing cable systems, @Home™ customers, coast to coast, have "always on" access to eye-popping multimedia content.

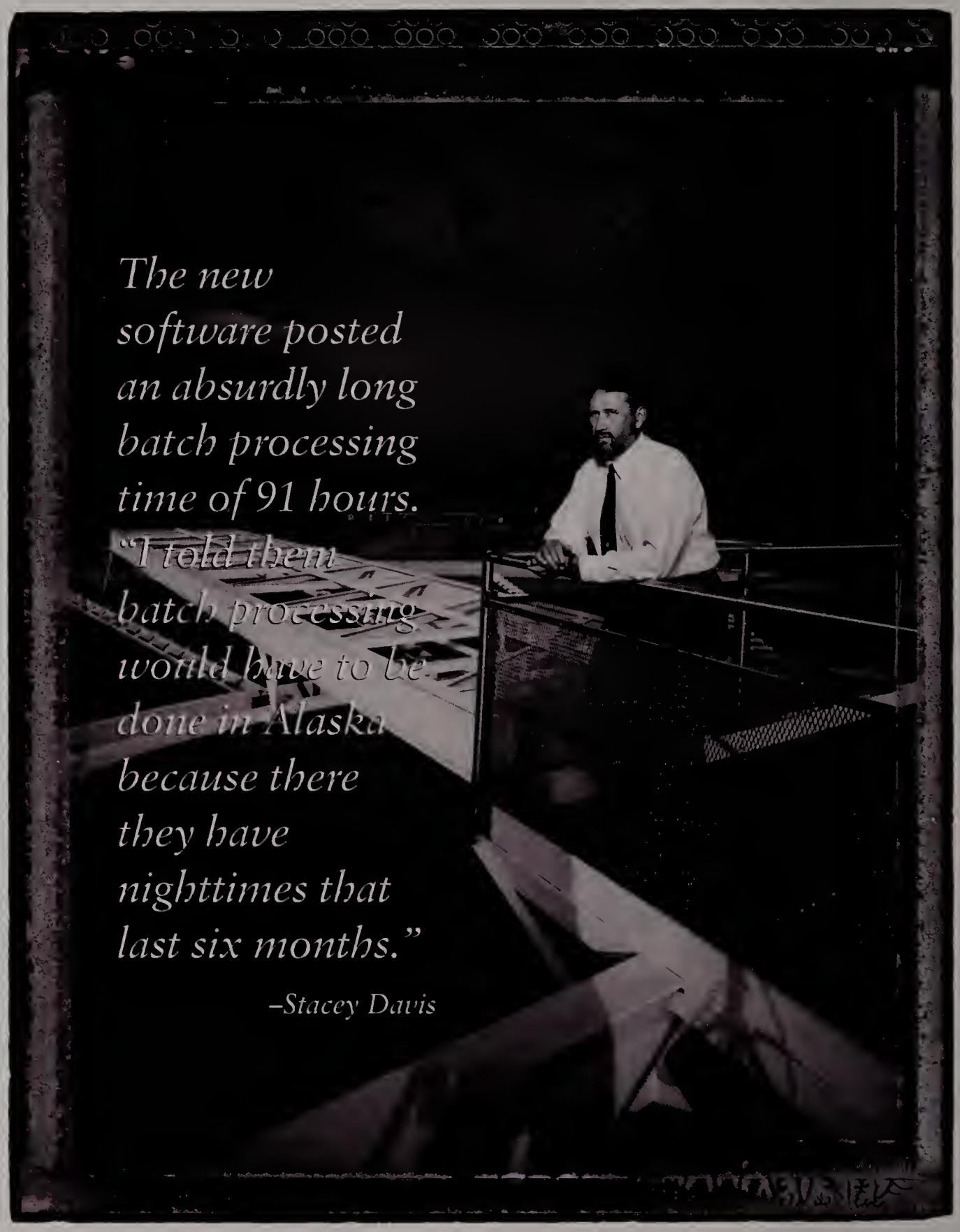
IT management software from Tivoli Systems Inc., an IBM company, lets a handful of people at @Home's HQ manage hundreds of locally housed UNIX® servers. They can maximize uptime, deploy new servers, even quickly connect customers. All while minimizing staffing costs.

Says @Home's Chief Technology Officer, Milo Medin,"@Home Network wouldn't be possible without distributed computing and managing the network wouldn't be possible without Tivoli."
What can it do for you? Visit www.tivoli.com or call 1 888 TIVOLI-1.

IT management by Tivoli.

through its load of daily transactions during nighttime batch processing in five hours or less. To Davis, it was Peat Marwick's responsibility to meet these promises, including buying the Trust a faster computer if that became necessary. Davis says that he confronted Lott and Gorley about Blessing's warnings but was told not to worry. "They would say the Kansas City system was that system and this is this system and they would reassure us that this was going to succeed," recalls Davis.

Those assurances became less frequent and less reassuring in April 1989, three months after work on the project began, when Larry Lott sent a letter to the Trust's MIS director, Jana Bagwell, expressing Peat's opinion that the 6220 was inadequate for the job. Davis went ballistic. "In steering committee meetings we'd have Gorley saying, 'That's a hardware problem, you need to talk to Digital.' We said, 'No, it's *your* problem. If you want to call Digital in you can, but you are the ringleader here so you are responsible.'"



While the computer issue became public knowledge fairly early in the project, Peat decided not to send a letter to the Trust about the problems with its Goldrun tool, problems highlighted in internal memos written by the project's technical lead Steward Nazzaro. "The Oklahoma City engagement has a number of requirements which we are finding impossible to meet with the features currently available in Goldrun," he wrote in February 1989. In December of that year he criticized the "inefficient code" being generated by Goldrun. Although he declined to be interviewed directly for this story, citing a confidentiality agreement signed by the Trust and Peat in their legal settlement, Lott stated in his court deposition that Gorley told him that Nazzaro was "overreacting."

Nazzaro may have been understating the problem as it turned out. During performance testing in December, the new software posted an absurdly long batch processing time of 91 hours with just one terminal attached to the system (the Trust would need 65 to 80 terminals) and typical information request response times of 11 to 17 seconds. "I told them batch processing would have to be done in Alaska because there they have nighttimes that last six months," deadpans Davis in his Oklahoma drawl.

Even if Goldrun hadn't been a bust, there were other signs that the project was in trouble. There was constant turnover among the Peat staff on the project (which Lott characterized in his court deposition as "normal for a project of this size and scope") and Peat consultants bickered openly with each other in front of Trust staff about the plan for developing the software and the schedule for testing it. But mostly they argued about Peat's decision to put them up in a cheesy motel. The techies wanted apartments.

WE DON'T MAKE THE WORLD GO AROUND.

BUT WE IMPROVE THE PRODUCTIVITY OF 20,000 COMPANIES THAT DO.

For over two decades, Kronos time and labor management solutions have helped enterprises optimize labor resources and employee productivity. Our systems help to manage over 18 million employees worldwide by providing decision makers with critical time and activity information. Benefit from our expertise today. Call 1-800-225-1561, ext. 8111, or visit our website.

KRONOS® THE TIME & LABOR MANAGEMENT EXPERTS WWW.KRONOS.COM

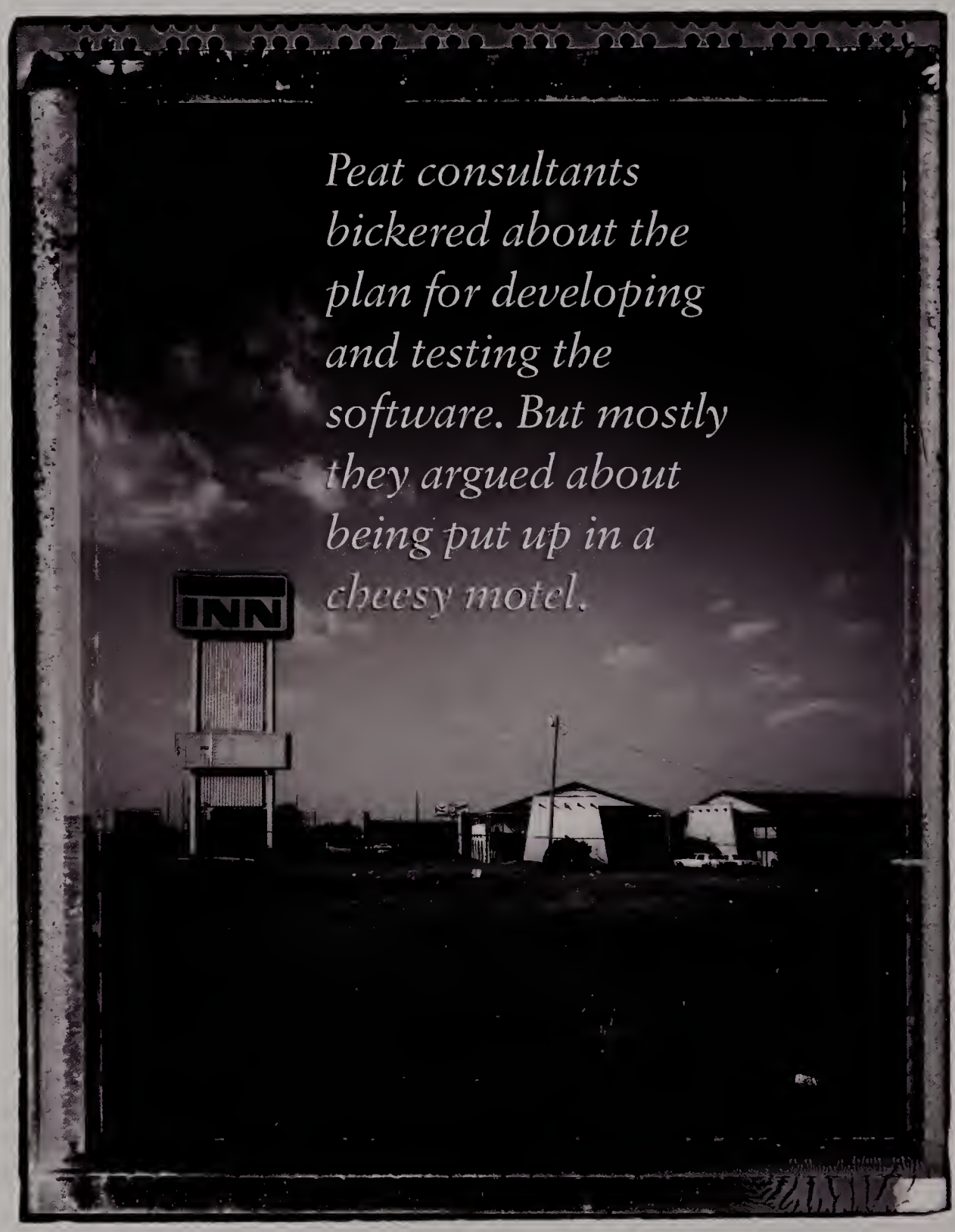
©1998, Kronos Incorporated. Kronos and the Kronos logo are registered trademarks of Kronos Incorporated.

Peat Marwick management didn't do much to quell the project turmoil; of the four project managers assigned to the Trust, three had no prior project management experience.

Things finally came to a head in 1990, when the Trust realized that the project could not be salvaged without going back to the City for more money. Despite well-meaning efforts from all the vendors and the Trust, which agreed to trim its functionality requirements, there was simply no way to bridge the performance gap with the equipment on hand. And no one was willing to chip in the extra $2.5 million for a 9000 Series VAX computer. With all sides clinging to their own versions of project responsibility and accountability, the Trust declared Peat in breach of contract in late 1990 and Peat walked off the project soon thereafter. The Trust would file suit against Peat almost one year later, in June 1991.

The Trust decided to abandon everything that had been developed to that point. "This isn't like buying a badly built house, where at least you have something to live in despite all the problems," Davis says. "When Peat Marwick left we had nothing we could use. Nothing."

Peat would eventually settle with the Trust in August 1993 for $1.8 million, about the cost of Peat's services. But that did not cover the time spent by the Trust's staff trying to help develop the new system, nor did it cover the cost of the Digital computer, which was eventually used by another City department. Even with the successful settlement, the Trust still didn't have the billing system it desperately needed.



ACT TWO: The VAPORWARE *fiasco*

DAVIS SAYS HE WAS STILL licking his wounds from the Peat Marwick debacle in late 1991, when he received a phone call from Deniece Chaplin, Digital's sales representative to the City. "I believe I have found a solution for you," she said. She told Davis that Digital had just purchased 10 percent of a software company called NCC that offered packaged applications for utilities. This was the first time that Digital had gotten so cozy with a software company and Davis took that as a good omen. He agreed to consider NCC during his renewed efforts to find a utility-billing system.

This time, the Trust decided to write its own RFP, which was lengthy and went into great detail explaining the Trust's specific functionality and performance requirements. One of the most critical requirements for Davis was that vendors show up with a proven packaged software application—no custom coding or incomplete "vaporware." NCC was able to present a proven product by affixing the Affinity 1.0 name to a separate program known as Flagship, which was already in use at several U.S. utilities. NCC could then represent Affinity 2.1 as an "incremental upgrade" to Affinity 1.0, rather than an entirely new and separate development effort. By sending the Trust to Flagship reference sites and showing off the

Consulting | Application Development | Application Outsourcing

we get IT done.

How can your Information Technology help you achieve a competitive advantage? Call Keane. We use rigorous process and management disciplines to develop and manage software. And we tie performance metrics to the specific needs of your business. Our approach continuously improves the performance of IT. So you can improve time-to-market, flexibility, customer satisfaction and productivity. Let Keane help you plan, build and manage a high-performance IT organization.

Call 1-888-KEANE-98
www.keane.com

KEANE we get IT done.

Year 2000 Compliance | Help Desk Outsourcing | Healthcare Solutions

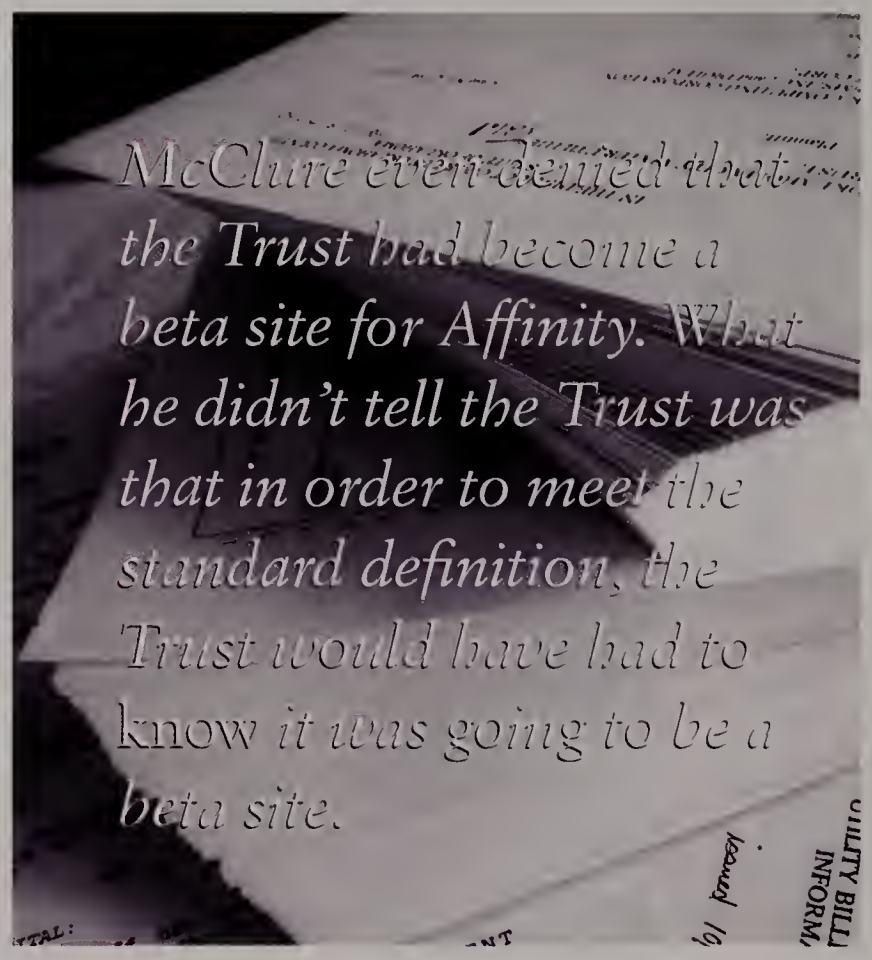
Flagship software, NCC avoided the uncomfortable truth about the Affinity product: It was a mere shell of a program that had not been fully tested or installed anywhere in the world.

NCC's struggle to stay afloat led the company to take desperate measures to win the contract. When Terry McClure, NCC's project manager, reviewed the Trust's RFP, he gave NCC management an estimate of 2,800 person hours to customize the base Affinity product (which was still not complete) to meet the Trust's RFP requirements. He says NCC management then told him and his technical colleagues that "we needed to go back through the [RFP] and not analyze it so closely, I suppose, or words to that effect." McClure got the message and lowered the estimate by nearly 1,000 hours. He says he believes NCC intentionally "underbid" the project in order to win the contract, something he says is common practice in the cutthroat world of software development.

Davis got his own glimpse of that cutthroat world when a competing bidder sent him a letter warning that no one had Affinity up and running and that one of NCC's "current" (i.e., Flagship) customers, the public utility of Fayetteville, N.C., kicked NCC out and wrote a new RFP stipulating that "any product proposed must have at least a two-year installation history."

Davis remembers the "sour grapes letter," as he calls it. "The software business is a tough business where vendors do a lot of rock throwing," says Davis. "We called the utilities mentioned and asked what had occurred and we tried to draw a parallel where we could." He says he couldn't find many. Besides, he reasoned, the Trust was buying Affinity, not Flagship.

To Aschermann, who still inhabits that cutthroat world as an independent software developer and consultant, pinning the project problems to the Flagship versus Affinity debate is a cop-out. "The basic structure that was started with to develop [Affinity 2.1] was very much the core structure of Flagship," he says, although NCC developers who worked on the project assert that Affinity was completely new and separate from the Flagship development effort. Aschermann adds that during his videotaped presentation, "I believe it was fairly clearly described that [Affinity 2.1] was not running anywhere although it was being benchmarked at the time." He is less clear about his videotaped description of Affinity 2.1 code as having been "finished" in November 1991. "I was not in a position to know whether what I was being told by NCC [about the state of the Affinity code] was accurate or not accurate," Aschermann says. "Was I aware that it was not 100 percent complete? Yes. Was I aware of where it stood exactly? No."



After signing a $1.3 million contract with NCC in March 1992, it didn't take long for the Trust to find out exactly where Affinity stood. Nor did it take long to discover that NCC was in such deep financial trouble that it could not afford the computer and people resources necessary to support the development effort for Affinity—which it had agreed to install by April 1993. Soon after the project began, overwhelmed developers at NCC's Charlotte headquarters began shipping raw, bug-filled Affinity code to Oklahoma City, where the Trust's programmers took on the burden of testing the rough stuff while McClure and his programmers focused on repairing and installing the code.

Despite the obvious difficulties, McClure remained mum about the true state of Affinity. In an April 1993 project steering committee meeting, McClure even denied the assertion by City Auditor Brenda Carpenter that the Trust had become a beta site for Affinity. What he knew, but didn't tell the Trust, was that in order to meet the standard definition, the Trust would have had to *know* it was going to be a beta site and agree to it before the project started. Asked why he decided not to reveal the truth about Affinity to the Trust, McClure replies, "Just didn't seem to be in the best interest of the project to indicate that they had bought something that wasn't there."

Strange though it may seem now, the company man McClure managed to maintain the respect of the Trust despite all the broken promises from NCC. It had been clear from the beginning that he and his programmers were dedicated to making Affinity work. It's a good thing, too, because they would need every ounce of sympathy they could muster in September 1993, when NCC's owner and primary backer, William Devers, decided to pull the financial plug on the troubled Affinity division. "I think it was a Monday," recalls McClure. "I had flown back from Charlotte to Oklahoma City for another week's work here on the project. And when I arrived, I couldn't get into the system. Kerry [Wagnon, the Trust's new MIS director] informed me that NCC was closing down the Affinity division of the company and the project. So that's how I officially found out." McClure had worked for NCC for 17 years. The rest of the Affinity staffers were laid off the same day.

NCC sold the dregs of Affinity to

You can always tell when you're in the presence of a masterpiece.

"MUSIC IS THE UNIVERSAL LANGUAGE OF MANKIND."

FAI Insurance

"Access to Masterpiece/Net through a browser, via a standard Windows interface, will not only simplify information access and delivery for the casual user; it will extend our remote computing options throughout the entire enterprise."

FAI Insurance
Sydney, Australia

KLM

"With its ability to support high-volume processing in multiple currencies and languages, Masterpiece provides the ideal financial management solution for our multinational operations."

KLM
The Netherlands

ITT Systems

"For a financial software system with the sophistication, versatility and depth of Masterpiece/Net, we were astonished at how fast Prestige had it all up and running."

ITT Systems
Colorado Springs, Colorado

Have you seen our reviews?

"MASTERPIECE®/NET IS THE UNIVERSAL LANGUAGE OF FINANCE."

When Prestige Software International™ introduced Masterpiece®/Net, we were confident the global financial harmony it offered would draw a positive reception. But even we were overwhelmed by the raves it received. Financial managers from Los Angeles to London applaud its global functionality. Its astonishing range lets them seamlessly manage worldwide business operations over the Internet/Intranet.

Masterpiece/Net allows anyone at a desktop to share documents across the enterprise and around the globe. It supports local taxation methods and accounting practices in places as diverse as Paris and Shanghai. And it monitors business events to get the right information to the right person. Like letting the appropriate employee know a purchase order awaits approval. Or a customer's balance exceeds their credit limit.

The fact is, our versatile software has been acclaimed for everything from its forecasting powers to its Year 2000 and Euro readiness.

If you'd like to find out how well Masterpiece/Net can perform for your financial operations—and how amazingly fast all its functionality can be implemented—call us at **1-800-753-4321**, and visit our website at www.prestigesoft.com. Both will be well worth your time.

And you can quote us on that.

PRESTIGE™
SOFTWARE INTERNATIONAL
A DIVISION OF COMPUTER ASSOCIATES INTERNATIONAL, INC.

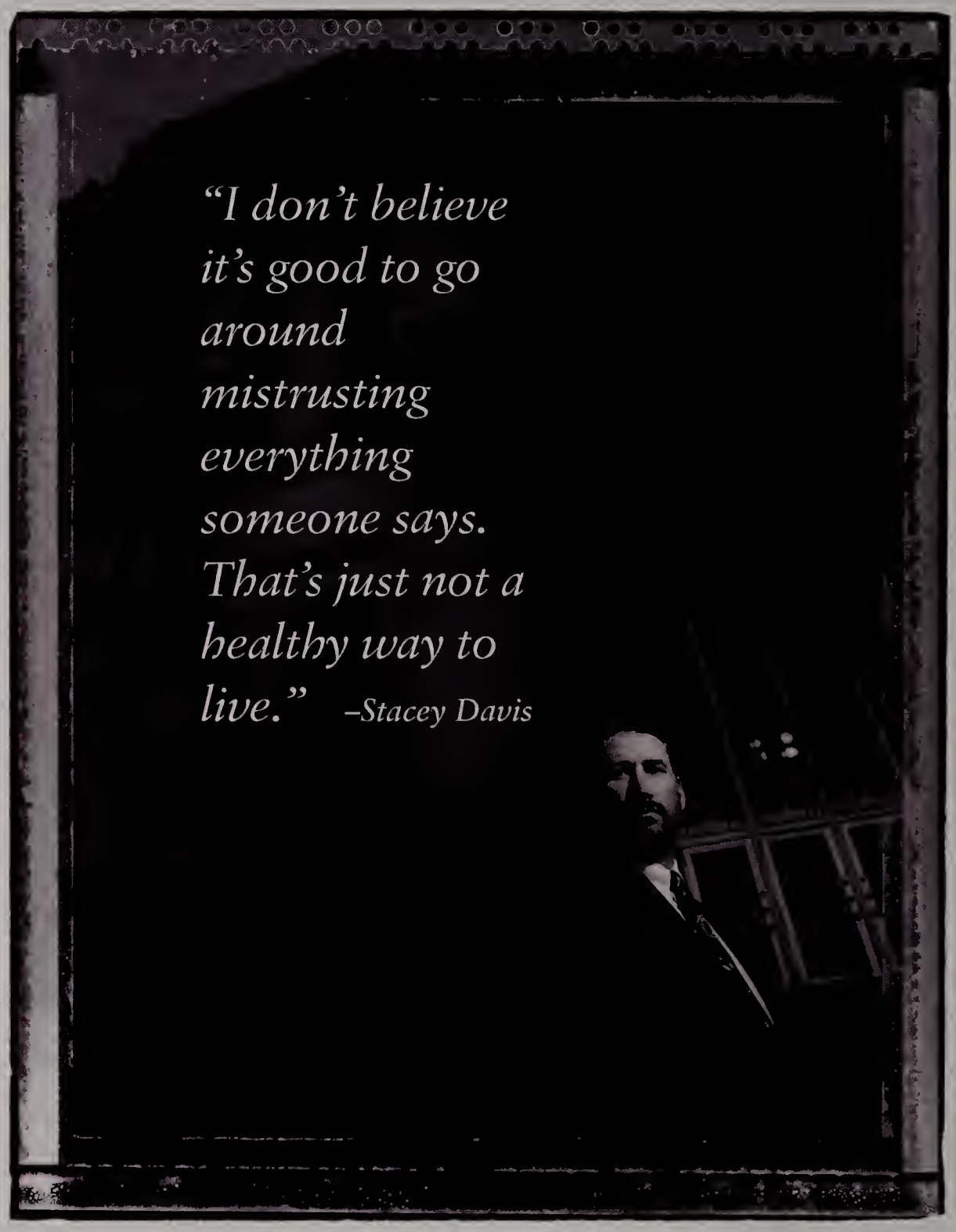
© 1998 Computer Associates International, Inc. All product names referenced herein are trademarks of their respective companies.

Digital, which promptly shelved it while refusing the Trust's pleas for help in finishing the project. Left holding the bag once again, Davis knew the Trust could not afford to walk away from yet another pile of dead software. With nowhere else to turn, Davis hired McClure and his former NCC programmers to finish the project and filed suit against NCC and Digital in hopes of recovering some of the costs. McClure and his team would spend another year and a half getting the system to work (at an additional cost to the Trust of $2.6 million) before it finally went live in May 1995.

Davis says he is happy with the system that emerged, except for one major flaw: It lacks a database that would have let Davis run ad hoc queries about customer loyalty, complaints or other vital questions he had about the Trust's customers. "That was the primary reason we chose NCC over the others," he laments. What Davis got was a new system that does its job well, but can't think too much about the people contained in its vast database.

At least it was cheap. In June 1997, an Oklahoma County District Court jury found Digital and NCC both guilty of breach of contract, fraud and misrepresentation, among other charges, and ordered the companies to pay the Trust $4 million and $2 million respectively. Digital paid in full early in 1998, while a battered NCC is making time payments on a reduced settlement of $200,000, according to the Trust's lawyer, Eric Eissenstat, of the Oklahoma City-based law firm of Fellers, Snider, Blankenship, Bailey & Tippens.

Though the Trust had the last word legally, Davis and the rest of the project team received their fair share of criticism for the two failed software projects. City auditors called for more stringent testing of vendors' software functionality and computer performance claims in future City projects as a result of the debacles. And outside observers criticize the Trust for trusting too much and not taking a more active role in managing the projects. "You can't rely on the contract," says Christopher Hoenig, former director of information management and technology issues at the U.S. General Accounting Office and president of Solutions, a Washington, D.C.-based independent consulting and training firm. "You have to be able to technically assess the project and flag problems early and fix them yourself, if necessary. If you don't have people internally with the skills to be able to do that, then hire them."



Davis believes he and his project team did the right thing by focusing on the agreed upon contractual requirements. "[In both projects] we found that sticking to our requirements was crucial," he says. "Any time the consultants strayed from meeting their requirements we knew something was wrong and we told them so." He adds, poignantly: "I also don't believe it's good to go around mistrusting everything someone says. That's just not a healthy way to live."

Though Davis feels vindicated by the successful legal cases, he looks back on those eight years of lost productivity and broken promises with a kind of pragmatic horror. Through all the pain, he and his staff endured and eventually prevailed. Davis approaches the triple-digit heat of an early June afternoon in downtown Oklahoma City with the same sort of doggedness. "When you live here a while," he says, "you just learn how to sweat." CIO

Senior Editor Christopher Koch can be reached at ckoch@cio.com.

Editor's note: *Quotes from sources who were unavailable or declined interviews were excerpted from sworn court depositions obtained by* CIO.

It's déjà vu all over again: The new COBOL.

Ben & Jerry's Homemade, Inc. found that the real scoop on cross-platform compatibility isn't java, it's ACUCOBOL-GT. They moved 460 programs and 1,000 screen components from a Novell Network on PCs to a new computer over a week-end. ACUCOBOL-GT was the clear choice because it runs on over 600 platforms.

Coffee Ole,™ anyone?

It's not your father's COBOL any more.

If you're still thinking of COBOL as the "green screen machine," wait till you see what's being done around the world with ACUCOBOL™-GT.

And if you've been thinking of enhancing your COBOL applications, you'll find you can do it best without even thinking about C/C++ or VB, and can make incredible strides without changing a line of your current application code.

Want a modern GUI?

Just add it to your existing applications with our ACUCOBOL-GT WYSIWYG screen painter, using the same "widgets" you find in VB and other front-ends.

Web publishing?

It's easiest with ACUCOBOL-GT. Just add a hyperlink to your application or embed it in your page, then have your clients install our plug-in for their Netscape or Microsoft browser and you're done.

Relational DBMS access?

Utterly seamless with Acu4GL™. It executes COBOL I/O operations by invisibly generating SQL to get the answers you need, and supports identical source code across hardware platforms and RDBMSs including Oracle, Informix, Sybase and SQL Server.

Cross-platform capabilities?

We were cross-platform when Java was still a bean, and today ACUCOBOL-GT runs applications unchanged on over 600 UNIX and Windows platforms.

Which all adds up to the fact that you can enhance your users' interaction while reusing code you know is reliable because it's been running for years — your COBOL code, the ultimate reusable resource. Everyone from your maintenance staff to your CEO will love it.

There's more, so check out the details on our Web site or call today and let us give you the whole story.

It's the new COBOL. ACUCOBOL-GT.

ACUCORP™

(800) 262-6585/(619) 689-4450
http://www.acucorp.com
theNewCobol@acucorp.com

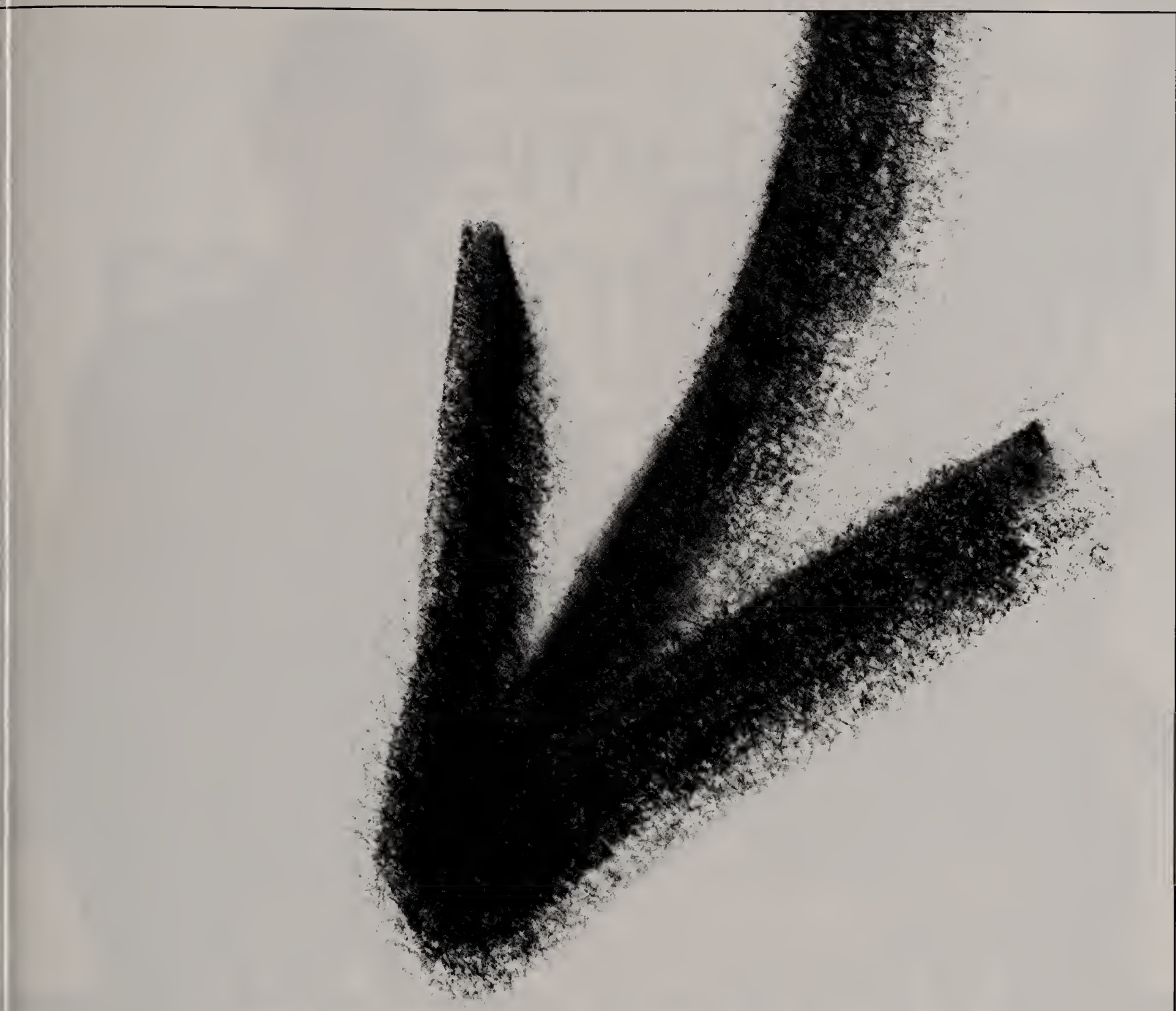
Acucorp, ACUCOBOL, Acu4GL, AcuODBC are trademarks of Acucorp, Inc. Other products and services mentioned are not. © Acucorp, Inc. 1998

TIBCO software connects all your applications, databases and networks. You become a global, real-time, event-driven enterprise. (Over 500 of the world's leading corporations are.) You know instantly the relevant events that drive your business. Your business processes are integrated for smarter, faster decisions. You reduce cycle times. You deliver customer service at the highest level.
You win. **www.tibco.com**

And that should definitely put a smile on your face.

TIBCO

NEW YORK CHICAGO BOSTON HOUSTON PALO ALTO TORONTO WASHINGTON D.C. LONDON AMSTERDAM COPENHAGEN



STOCKHOLM FRANKFURT LUXEMBOURG VIENNA ZURICH MELBOURNE SYDNEY HONG KONG SINGAPORE TOKYO

© 1998 TIBCO. All rights reserved.

*Frank Herczeg (left) and **Jim Watkins** of Sea-Land Service now insist on steering a project from within.*

Their Pain, Your Gain

From missteps to major debacles, problematic IT projects yield lessons for best practices in working with consultants

BY GARY ABRAMSON

Reader ROI

READ THIS ARTICLE TO LEARN

- Best practices for choosing consultants and staffing project teams
- Strategies to keep projects on track
- Tips for managing change during and after projects

PERHAPS YOU'VE HEARD STORIES LIKE THESE: A CONTAINER company discovers that consultants have done almost no work on a critical IT project just weeks before its intended completion date. An auto parts distributor hires a consultant who, it turns out, doesn't understand the software needed to build its database. A transportation company fires consultants partway through a multimillion-dollar contract because of weak performance.

These are true consulting horror stories, and there are many more like them. Fortunately, unlike the horrors you see in the movies, these tales

PHOTO BY DONNA BISE / LIAISON INTERNATIONAL

• How do you integrate Internet, multimedia, and intranet in a call center?

Answer: Any way that works for your customers.

Via multivendor enterprise switching systems.

With computer-telephony integration apps

running on open client/server standards.

Tied into any database you can name. And

with Windows-based authoring tools to create

interfaces that reflect your operations like a mirror.

However your customers want it, Aspect delivers.

It's all about the customers. Reaching you how they want, when they want. And getting treated the way they like. That's how we've built Aspect, even

pegging our compensation to customer satisfaction.

So give us a call... a click...whatever you like.

1.800.226.8440. www.aspect.com

Call Centers. Done Right.

ASPECT

Company and product names mentioned herein may be trademarks of their respective owners.

offer solutions or at least strategies for preventing their recurrence. Here are 10 tactics to help you get the most out of consultants on your IT projects.

Check Timing and Priorities

THE FIRST STEP TO A SUCCESSFUL PROJECT IS SO basic it's easy to overlook: Make sure the project fits on the company's strategic agenda and won't compete for time, funds or staff with other projects. Otherwise both the consultants and the client staff assigned to the project will become frustrated, and costly consultants' hours will be wasted.

Dale Anderson, president of Pragmatek Consulting Group Ltd. in Minneapolis, has faced this challenge from both sides—during his decade as CIO at several companies and as a consultant at Arthur Andersen. In a classic example of competing agendas, consultants plan client training for a given week, but then someone from within the company comes in with another project and says they can't run training that week. "Wasting a week of consultants' time is expensive and [counterproductive]," says Anderson.

He recommends that the entire executive team, sponsored by the CIO or COO, map out the year's projects and make sure there are no overlaps. A project should go forward based on the affected business units' ability to absorb the change caused by the project. The change may be a new product line, organizational structure, location or computer system. "In any operational unit, it will take a month to get ready for the change, a month to do the change and a month to be comfortable with the change," Anderson says. Given that three-month rule of thumb, it may be wise to plan only one such project per quarter.

David Concepcion, *former New High Glass CIO, learned the hard way to look for proof behind consultants' promises.*

PHOTO BY BOB SOTO

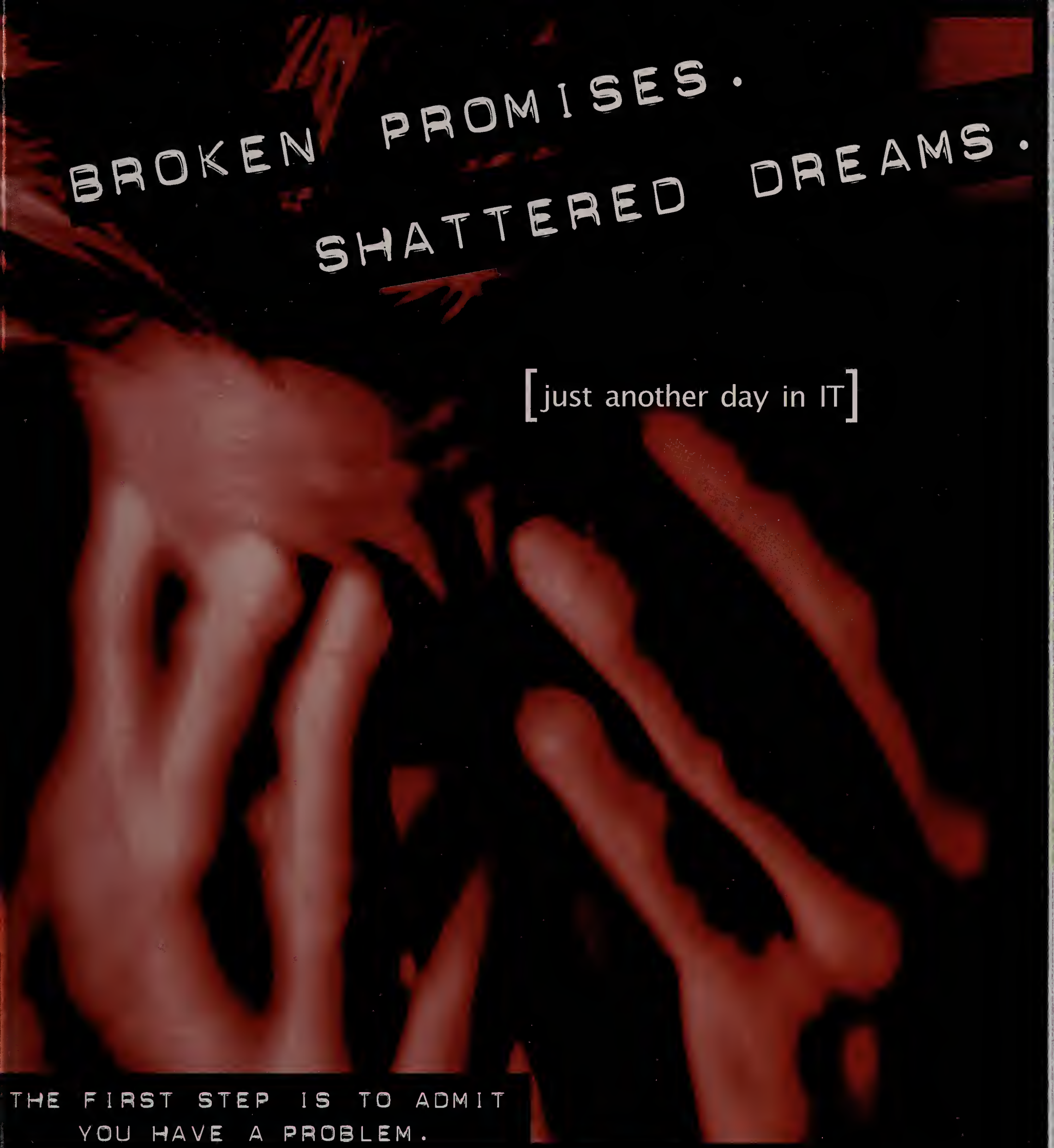
Check References and Experience

FINDING A CONSULTING FIRM WITH A GOOD NAME is not enough to be safe these days. "Go with someone who has a [known] history," advises David Concepcion.

Concepcion, who spent 10 years as IT operations manager of Miami-based container distributor New High Glass Co. Inc. before becoming a consultant himself in January 1998, tells of New High's learning experience. In the summer of 1997, Concepcion hired an accounting firm that was moving into broader consulting services, including IT, to work on an orders and accounting application. "We trusted them, but they got to a certain stage and threw their hands up and said, 'We've got to go outside for help.'" Concepcion himself had to find other consultants to finish the project.

A similar problem struck the U.S. Department of Agriculture's Food & Nutritional Services section, which supervises food stamp programs and other state-run social services. "We had one project where the winning bidder had developed several systems in other states for human services but had never developed one specifically for the food stamp program," says Kathy Tankersley, an IT senior computer specialist in the section's Boston office, who oversees consulting projects worth between $15 million and $200 million. Her agency didn't question the consultant's assumption that the business knowledge of people experienced in similar programs would be transferable. "Within nine months or so," Tankersley recalls, "they realized they were in too deep for [the skills] they had. They did try their best—they shuffled resources around and tried to bring in people who had experience from other sources dealing with the food stamp program. But it was not enough, and the contract was terminated due to lack of performance." The mistake, Tankersley says, lay in believing that specific business knowledge was not needed.

Marianne Hedin, a research manager at IT industry researcher International Data Corp. in Framingham, Mass. (a sister company to CIO Communications Inc.), says potential clients should beware of consultants who are promising too much. "Even some of the Big Five have



The quickest way to improvement is Empirical's 4-step Program.

You know your IT department has a problem. Internal customers want better, faster, and more reliable applications. Your CEO wants you to deliver IT cheaper, with less staff, while still meeting growing business demands. And you're in the middle feeling the squeeze. Empirical's 4-step program lets you plan, measure, predict, and improve the performance, availability, and recoverability of business critical applications. Empirical Suite, the leading end-to-end service level management solution, can improve your overall IT performance levels by as much as 100%. By aligning IT and internal business units, Empirical can minimize downtime, increase end-user productivity, and help improve the overall credibility of your IT department.

GET HELP NOW. Visit www.empirical.com/contact or call 1.800.933.7668 x 7562 for your FREE Empirical IT Intervention Kit. Or call and book a consultation today, and qualify for a FREE PalmPilot™ with our compliments.

EMPIRICAL™
SOFTWARE

made this error and had to either pull out, pay a penalty, or they got sued. As a client you have to look out for not being pulled in by enthusiasm that isn't properly backed up by past experience and case studies," she says. Ask for proof that consultants can deliver what they promise.

Handpick Team Members

BECAUSE CONSULTING FIRMS SELL THEMSELVES AS vast, self-managing repositories of knowledge, it is easy to let them choose their resources for you. While your company can't pick from the entire roster of consultants at a Big Five firm, it is possible to demand minimum levels of experience.

"Projects may seem standard upfront, but as you get into one, complications emerge, and when you get into complications you really need a seasoned consultant," says Hedin. Consulting firms are becoming more aware of this problem and have lately aimed at retaining more experienced professionals, she says. Hedin advises clients to ask explicitly about the consultants' level of experience on each type of project.

"We put into the contract that no one comes on to a project without the approval of the team members, generally based on personal interviews and résumés," says Frank Herczeg, vice president for finance and comptroller at Sea-Land Service Inc., a Charlotte, N.C.-based transportation company. The condition serves as quality control from the beginning of the project through its completion, since there is bound to be turnover during a long project.

Price Waterhouse (PW; now PricewaterhouseCoopers) accepted those terms and was awarded Sea-Land's largest current IT project. "It's not typically the way PW does it, but the business and tech people [from both companies] formed a management team, and they work out any conflict" over team staffing and other issues, says Jim Watkins, Sea-Land's vice president for applications development and strategic planning.

At J.C. Whitney in Chicago, a catalog retailer of auto parts, currently in the midst of a multifaceted transition from old systems and processes to new ones, insistence on vetting consultants' team members comes from bitter experience. "When I showed up at this company we had a consultant who was supposed to be building a database access application and I discovered this person did not know the utility tools he was going to use to build it," recalls Tom Murray, Whitney's vice president of IS. "It's becoming ever more of a problem: consultants showing up who don't have the qualifications to do the task."

Now Whitney always builds into its contracts the right to qualify the people whom consultants place on project teams, Murray says. He acknowledges, however, that his company faces a problem if it hires IT consultants "when we don't understand the application or the technology and want the consultants to mentor us. Usually we can rely on references and the quality [reputation], but we've still discovered people definitely lacking in skills."

Leonard Hice, *vice president and CIO of Theco International, points out the dangers of ill-defined projects.*

PHOTO BY LARA JO REGAN / SABA

Define Project Scope

ONE OF THE MOST NOTORIOUS AND COSTLY pitfalls of IT projects is their tendency to stretch beyond the limits of the original plan. To avoid this scope creep, clients need to accurately assess their current situation and do their homework before the consultants' work commences.

Customers have been known to accuse consultants of trying to keep a project alive in order to keep billing for time, but there is often a less sinister explanation for scope creep. And consultants say the problem frequently starts with the client.

Take the case of a fast-growing health-care company, WellPoint Health Networks Inc. of Woodland Hills, Calif., which early this year began outsourcing much of its IT operations to GTE. Vice President and CIO Leonard Hice, whose consulting company, Theco

How fast can your business change in today's global marketplace?

Visit **www.fastchange.com**

Or call us at **1-800-772-2727, ext. 615.**

(See how you could become a real superhero!)

SSA

The Best Way Forward

IBM Business Partner

The IBM logo is a registered trademark and the IBM Business Partner emblem is a trademark of International Business Machines Corporation and are used together under license. ©1998 IBM Corp. SSA is a trademark of System Software Associates, Inc.

International, also of Woodland Hills, is a subcontractor on the five-year project, says that GTE based its staffing for the call center portion of the project on the client's own erroneous estimates. "GTE asked how many calls they got per day and WellPoint said 8,000 to 9,000, and [GTE] staffed for that. But in reality they were getting 16,000 to 17,000," Hice says. Once this was discovered, GTE had to renegotiate projected person-hours for the job, he says.

According to IDC's Hedin, one way to keep to budget and other targets is to adopt the fixed time/fixed price contract (see "The Latest in Suits," Page 74). Another alternative is value-based pricing, in which final payment depends on the final results. This requires both sides to agree at the outset what constitutes a successful outcome and to clearly delineate each side's responsibilities.

Whatever the billing method, an ill-defined project is the most likely to suffer from scope creep, so a key safeguard is to involve client staff in the development of the project. "We create a user-led team where IS participates heavily," says Murray. "Users must identify and document intentions and plans, and provide added-value

Hice says were not in the original contract. These eventually added up, and the Army's project manager felt awkward about going to his superior to increase the budget. "Tell somebody they goofed to the tune of several million dollars and they get kind of sensitive on you," Hice observes. The moral, he says, is to scope out a project in fine detail at the start, and don't let a series of small requests balloon into major changes.

Build a Combined Project Team

HIRING CONSULTANTS CAN BUY YOU KNOW-HOW, but smooth execution requires a team composed of both consultants and the client's staff and a consensus from the beginning that responsibility for success or failure will be shared. "Unless both the consultant and client have equal skin in the game, it's not going to work," says Sea-Land's Watkins. So even though Sea-Land and the consultants bring different knowledge to a project, they agree to share responsibility for the overall outcome. "The way we use the Big Five," he says, "is to ask where our skill gaps are on the project, and we have them build the team that fits. But we don't hold them 100 percent accountable for the deliverables."

"The most successful projects have been those where the consultant and client are two in a box; where, when the consultant is at the worksite, the employees don't even know it's a consultant"

-Marianne Hedin

understanding of the intricacies of the project."

As simple a solution as open weekly meetings, including both consultants and client members of the project team, can help keep projects on track, Murray says. "I came into the company and this project had been underway for almost a year. The project was veering off track, but we caught it in time." To get it back on track, Murray began requiring a weekly meeting, usually lasting 15 minutes, but running all day if needed. At smaller companies such as J.C. Whitney, the president or other senior management can drop in because they know when and where the team meets.

Some slippage in the scope of projects may be unavoidable, but companies can take a lesson from Hice's experience consulting to the U.S. Army Corps of Engineers on a project to build an operations database. The Corps began requesting bits of work in areas that

Such best practices are learned at a high cost. Sea-Land's financial department's $80 million 1995 project to track orders through to its processing and payment (originally led by a Big Six consulting firm the company prefers not to name) had been underway for a year and a half when Sea-Land realized it wasn't getting the desired results. "It's not that enough wasn't done, but when you dug deeper it wasn't as good as we thought," Herczeg recalls. "We didn't have enough resources devoted on our end to see what they were producing.

"We had let the firm do its own thing, and were not really involved in managing [the project]. The changes we've made really came out of the analysis of how we could have done that one better." The company's new approach is, "If you don't have a Sea-Land project manager's name on the project along with the consultant's, then it won't work," adds Herczeg. For example, on an

Why VERITAS NetBackup?

Y2K!

Deploying a Y2K-compliant backup and recovery system is the first and most important step in surviving the millennium challenge. And there's no better solution than VERITAS® NetBackup™.

VERITAS NetBackup automates backup and recovery operations across heterogeneous environments, providing centralized management of all your storage devices from any location on the network. It features:

- System-level integration to ensure data security and high availability
- Comprehensive media support with full, incremental, cumulative, and on-demand backups
- On-line hot backup for fast backup for applications, including MS Exchange™, MS SQL Server™ and Oracle8™
- Secure, reliable encryption, across the wire and on the device
- Scalability for any size environment

For more information on NetBackup and how VERITAS can help you assess, inventory and ensure your mission-critical data, visit us at www.veritas.com or call 888-999-5533, ext. 105, today. Because tomorrow may be too late.

VERITAS®

©1998 VERITAS Software Corporation. All rights reserved. VERITAS and the VERITAS logo are registered trademarks of VERITAS Software Corporation. VERITAS NetBackup is a trademark of VERITAS Software Corporation. Other names mentioned here may be trademarks and/or registered trademarks of their respective companies.

installation of Oracle databases currently underway in his department, Herczeg has assigned two finance managers along with one IT manager to work with the recently merged PricewaterhouseCoopers. And Sea-Land employees are assigned as full-time members of IT project teams. "Our project directors have to be 100 percent full time for the life of the project, usually two or three years," Herczeg says.

Maintain Oversight

KEEP A STEADY WATCH ON ANY I.T. CONSULTING project. That bit of wisdom is unsurprising but absolutely essential. Many companies have suffered expensive and strategically disastrous setbacks by neglecting to do so.

New High Glass needed a consulting firm (in a separate project) to help it modify some off-the-shelf software it had purchased. It selected a small Florida firm that had been recommended to them. At a corporatewide meeting in mid-November, the consultants laid out the project plan and New High Glass gave the go-ahead. "They assigned a project leader from [the consultancy] and I would have thought that meant it was their responsibility to make sure they were on time [delivering the project]," Concepcion says.

The live date for the modified application was set for March 1, 1998. "In the first week of February, we saw they hadn't really done anything yet. They couldn't show anything to us," Concepcion recalls. Training on the new application, scheduled for mid-February, had to be done on the off-the-shelf version. "It was very frustrating to tell users that this screen here will eventually look like X and Y," he says. "By then we'd spent a quarter of a million dollars. By the live date we were supposed to have hours left over for a 'would be nice' phase to add operability suggested by users. It was one of those situations where you want to pull out your hair.

"Make sure there are milestones, that you have proof that work is being accomplished," Concepcion now says.

Assure High-Level Buy-In

FOR AMBITIOUS I.T. PROJECTS, A strong and balanced team is not enough to ensure success. Executive involvement lends clout to the client-company side and keeps top management apprised of key developments in the undertaking.

At Sea-Land, "On a large project we might have a vice president-level executive from the business sponsor and the IT side, then directors from both those sides for the day-to-day operation" of the team, says Herczeg. For Sea-Land's current $5 million Oracle financials implementation, which will include payables, procurement, inventory and fixed-asset tracking, Herczeg's boss, CFO Chuck Raymond, and Chief Transportation Officer Robert Grassie both sit on the project's steering committee, which meets once a month.

At J.C. Whitney, Murray has established an executive sign-off protocol tailored to the size of the project. "We're working on one major project this year, replacing our 25-year-old order management system, which will cost us $3.5 million, including about $1 million in consulting fees. The sign-off for that, since it's at the heart of our business, required the outside board of

Dale Anderson, *president of Pragmatek Consulting Group, advises cueing up a knowledge transfer plan at the start of a project.*

PHOTO BY STEVE NIEDORF

Find, compare and qualify software and suppliers fast!

The Manufacturing Enterprise Applications Comparison CD-ROM

Put it to the test!

Now available on one volume, this CD-ROM is the BEST resource tool available to IT professionals for identifying and evaluating business planning/supply chain, plant floor automation and maintenance management software.

With the MEA Comparison CD-ROM, you can develop a short list of suppliers of systems that best match your specific needs and create customized Requests for Proposal – quickly and easily.

In addition, you'll get comprehensive descriptions on:

- Over 640 systems within 70+ application areas
- 10,000 system functionalities and capabilities
- And instant Internet updates for the most current vendor and system information

See your FREE demo enclosed.

For more information call 1-800-647-1908 or visit our web site at www.masg.com

MANAGING automation
SOFTWARE GUIDES

Managing Automation Software Guides
A Division of Thomas Publishing Company

Power Up Your search!

directors." Meanwhile, a $400,000 database project for the marketing department required approval of a marketing manager and the president. And an under-$50,000 project could be approved by the marketing manager alone.

Cultivate Partnership

THE CAREFUL CONSTRUCTION OF AN I.T. PROJECT and its team can only be cemented by an attitude of partnership and a commitment to communication.

"Working very closely with the client seems to be the biggest factor" in project success, Hice says. "We've had projects in the past in which communication got to be the top issue. If the customer says I need this done by that time, [the consultant] should be writing a note with a little red flag."

Leadership of a project's design has to fall on the consultant's shoulders when a company lacks a clear idea of what it wants accomplished, Hice says. "Then it becomes time for the consultant to take the lead role and say, 'There are several approaches to this,' and let the client come back and say, 'This one will work better for us.'" The consultant can then lay out the plans for the project. But after that point, Hice and others say, it is far better for the client to take the lead.

"The most successful projects have been those where the consultant and client are two in a box; where, when the consultant is at the worksite, the employees don't even know it's a consultant," IDC's Hedin says.

Manage Change

ASSUME YOUR COMPANY HAS DESIGNED AND EXECUTED its IT project in great harmony with the consultant. Still, the newly installed IT may not fit the organization. Or better put, the organization may no longer fit the much-needed new IT. Work with the consultants during the project to monitor the technical and human systems as the work evolves.

"There's nothing worse than getting a call from someone who says, 'You installed a million dollar system and we're using 20 percent of it,'" says Anderson of Pragmatek. To avoid such embarrassments, companies should consider how and by whom the new IT will be used while the project is still underway. Anderson's standard practice is "to make sure we're meeting with all the right people through the beginning, middle and end of a project."

"We identified change management as being a critical component at the beginning, along with training and organizational development," says Sea-Land's Watkins.

Simon Says
"Grow Up!"

Exabyte says we have. Introducing the newest member from the leader in automation, the 690D.

"We asked PW to analyze how the organization should look [when the financial project was finished] and how should the bank reconciliations be done and where. They're recommending changes that suggest the organization needs to be structured around processes such as order-to-cash, not functions such as cutting an invoice."

The changes wrought by Sea-Land's IT project will therefore change reporting relationships and job descriptions. "The change management requires a major investment in time and resources," reports Watkins. "Our communications department is putting out information. We're training people we call change agents at two-day sessions being offered around the world." These employees then teach the rest of the company how to work differently.

Plan for Knowledge Transfer

LET'S SAY THE PROJECT IS DONE, AND THE NEW SYStem or application is up and running. Many companies still have good reason to hesitate when the consultants are finally ready to leave. Is anyone left behind who understands the work that has been done?

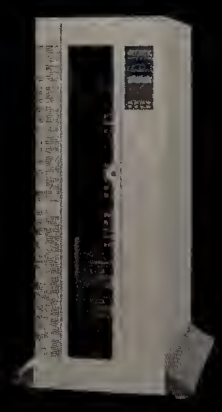
Anderson believes planning for knowledge transfer should be done at the very start of a contract. "It is important to talk at the very beginning about how the client is going to sustain the momentum [when the project is over], how knowledge will be transferred to the client's staff."

Hice has devised one way to leave a legacy: Clients should make sure that project plans include an automated tracking system or database to maintain a history of what's being done. On some projects, the creation of a project database on the client's mainframe is included in the contract. When the consultants leave, there is a digital record of the entire project that can be used for maintenance and planning.

The Last Word

IN SHORT, THOUGH THERE MAY BE NO ESCAPING the need for IT consultants—if anything, you'll be using them more—there is no reason for despair if you follow one basic rule: Stay involved. Like your personal physician, your consultants can only know how to help if you communicate and share responsibility with them. If you do, your company should have few horror stories and many happy endings. CIO

Senior Writer Gary Abramson can be reached via e-mail at gabramson@cio.com.



Exabyte®
every day. every time.

www.exabyte.com/home/690D.html

Exabyte proudly introduces the newest member of the Arrowhead family of libraries, the 690D. Our scalable technology allows 2 to 6 DLT drives and 30, 60 or 90 cartridges. The 690D is the most flexible DLT automation on the market today. So when it's time to grow up, Exabyte's 690D will grow with you. For an authorized reseller, call 1-800-774-7172.

JANUARY 31 - FEBRUARY 3, 1999

CIO

THE SEVENTH ANNUAL

Enterprise Value Retreat & Awards Ceremony

At the verge of the 21st century, companies must leverage the enormous opportunities continually created by technological advancements to better meet the intense demands of complex information networks, an increasingly dynamic global economy and the never-satisfied customer. In effect, the channels of information distribution and the ways companies have customarily added value and organized their work have been deeply impacted by IT. Using a combination of case studies and interactive lectures, we will learn how Pioneer Hi-Bred International, a $2 billion corporation and the world's leading developer, producer and supplier of seeds, has incorporated new research technology and production methods through substantial IT investments and marketing approaches across its 31 worldwide locations. We will also examine how Amazon.com continuously enriches its on-line retailing and services organization to better meet the needs of its 3 million active users in over 160 countries.

"CIOs must focus on integrating business strategy or changing it based on technology capabilities - this Retreat helps us on this path."

ROBERT COLANGELO, CIO, BAUSCH & LOMB

To register, please call 800 355-0246 or visit our Web site at *www.cio.com/conferences*

ENTERPRISE VALUE RETREAT PARTNERS:

Proud Underwriter of *CIO* magazine's Enterprise Value Awards:

AT&T SOLUTIONS

3Com · ACXIOM · AT&T SOLUTIONS · Bay Networks · BOOZ·ALLEN & HAMILTON · COMPAQ · Data General · epiphany · GTE · inacom · PLATINUM TECHNOLOGY · PRICEWATERHOUSECOOPERS · Tivoli

SUNDAY, JANUARY 31

Registration and Breakfast

Golf Tournament at La Paloma Country Club
Transportation to La Paloma Country Club will run continuously starting at 10:30 a.m. from the main entrance of the Westin La Paloma.

Registration

Retreat Welcome
JOSEPH L. LEVY, *President, CEO and Group Publisher*
CIO Communications, Inc.

Retreat Introduction
F. WARREN MCFARLAN, *Senior Associate Dean, Director of External Relations, Albert H. Gordon Professor of Business Administration*
Harvard Business School

Retreat faculty will open the program and set goals and objectives.

Partners' Café Reception
Meet other participants and Retreat Partners in an informal living room setting.

MONDAY, FEBRUARY 1

Opening Remarks and KnowPulse Poll℠
JOSEPH L. LEVY
Let your opinions be known through this well-reported research poll.

Amazon.com: Book Retailing and the Internet
BRANDT R. ALLEN
James C. Wheat, Jr. Professor of Business Administration
Associate Dean for Executive Education
Darden Graduate School of Business Administration
Executive Director
Tayloe Murphy International Business Studies Center
University of Virginia

Since its inception in 1995, Amazon.com has provided customers in more than 160 countries with an online source for millions of books, CDs, audio books, DVDs and computer games.

Amazon.com: Retailing and the Internet
BRANDT R. ALLEN
The realization of competition.

INDUSTRY BRIEFINGS
Discuss the latest thinking and newest approaches to information technology management with executives from our Partnering organizations.

Information Application Targets for the Early 21st Century
F. WARREN MCFARLAN
Discover the ways information technology will be applied in the next century.

Partners' Café Reception

TUESDAY, FEBRUARY 2

New IT-Enabled Organization Structures and the Roles of Intranets and Extranets
F. WARREN MCFARLAN
Examine ways new channels of communication evolve the structure of organizations.

Case Study: Pioneer Hi-Bred
F. WARREN MCFARLAN
Explore the business and technology issues facing this $2 billion global seed company.

Case Study Workgroups
Participants will break into small groups to analyze the case.

New Paradigms for IT Service Sourcing
F. WARREN MCFARLAN
Observe the major shifts in access to unconventional IT service sourcing.

Enterprise Value Awards Reception
Meet the Awards winners.

Enterprise Value Awards Ceremony and Dinner
Join us in celebrating the Enterprise Value Awards recipients, proudly underwritten by AT&T Solutions.

GARY BEACH
Publisher
CIO magazine

ABBIE LUNDBERG
Editor in Chief
CIO magazine

LEW MCCREARY
Editorial Director
CIO magazine

WEDNESDAY, FEBRUARY 3

KnowPulse Poll Results
LEW MCCREARY

Case Study Workgroup Presentations and Discussion
THOMAS HANIGAN
Vice President and Director of Information Management
Pioneer Hi-Bred

JOHN JAMES
Executive Vice President
Pioneer Hi-Bred

F. WARREN MCFARLAN

Groups will present and discuss their solutions with Pioneer Hi-Bred executives.

Case Study Epilogue and Reflections on Pioneer Hi-Bred
The case study company executives respond to break out group solutions.

Delivering IT Results in the Information-Mediated Age
F. WARREN MCFARLAN

Summary
F. WARREN MCFARLAN

The Latest in Suits

The explosive growth of the IT consulting industry presents new challenges for companies. Here are some of the major trends to look for from those sagacious suit-wearing, jargon-talking business fixers.

Reader ROI

READ THIS ARTICLE TO LEARN

- The pros and cons of one-stop consulting shops
- When it's appropriate to use a boutique instead of a large consulting firm
- Whether vendor consultants can be objective and why it may not matter

BY JENNIFER BRESNAHAN

A NIP AND A TUCK HERE, A NEW COMPETITIVE strategy there and the consulting industry's getting a whole new look. Afflicted by the same forces impelling organizations to turn to consultants in the first place, such as the proliferation of companywide software applications, globalization and the bewildering rate of technological innovation, the industry is refashioning itself in ways that have important ramifications for client companies. Consultants aren't going away, certainly, but they will look and behave differently. Client companies will have to reacquaint themselves with this modish version if they want to get the most out of their consulting relationships. Here are the major trends taking place in the IT consulting industry and what they mean for client organizations.

Growing Pains

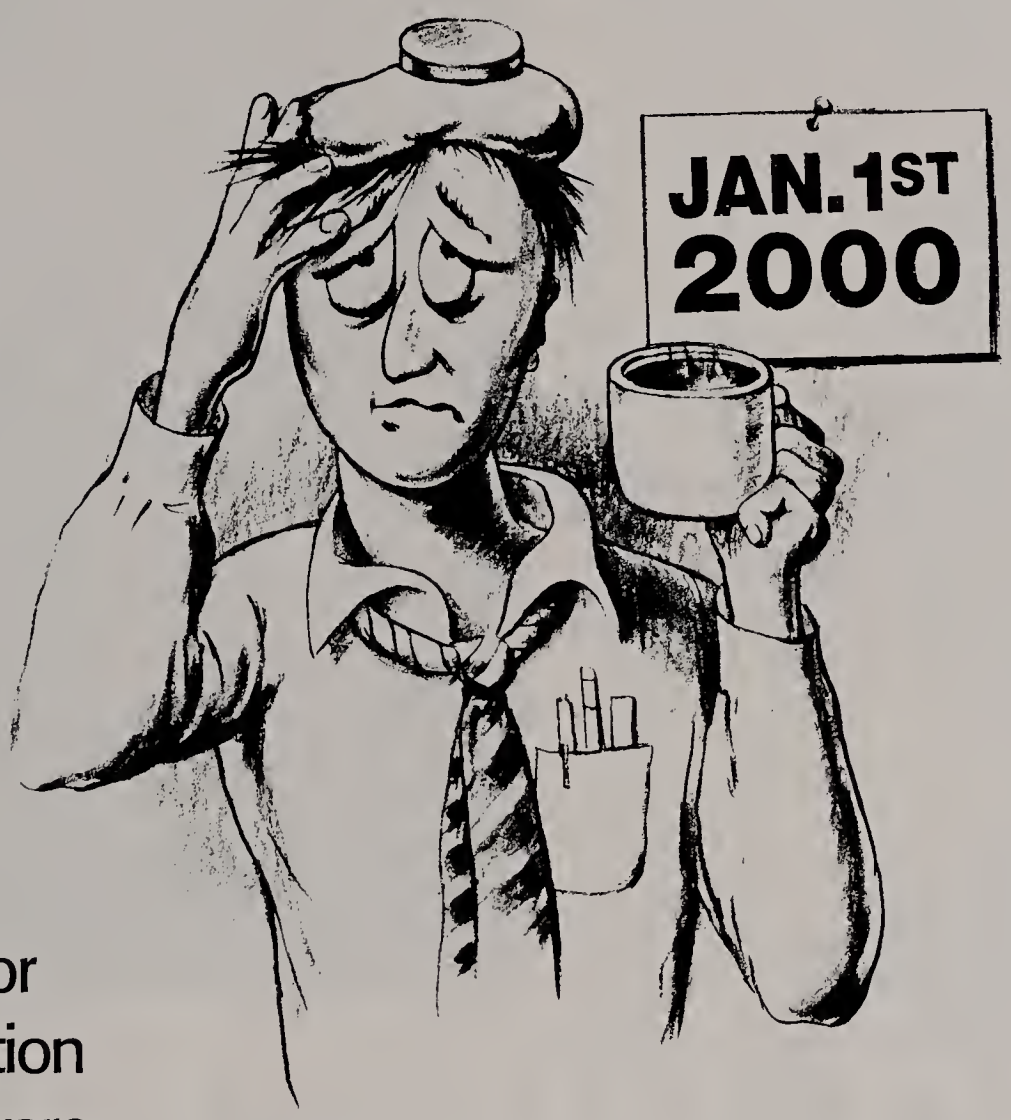
The business world is desperate for consulting help. Running leaner than ever, most organizations lack the technical, strategic and project management skills to handle the benumbing rate of technological and market change. Happy to oblige, the consulting industry is splitting at its seams to accommodate the demand. Big consulting firms are inhaling new employees, gulping up smaller firms and merging with peers. Small firms, or "boutiques," are sprouting up everywhere. While the consulting industry in general is growing fast—about 20 percent per year—the IT consulting sector, growing at 30 percent annually, is a major driver behind the increase, says Marshall Cooper, executive vice president of Fitzwilliam,

A Y2K problem that shuts down your factory will cause more headaches than a Y2K bug in accounting!

AM '98
New England, Booth 150

Allen-Bradley
Automation Fair
Booth 205

ISA EXPO/98
Booth 1566



New

"Pain Remedy" for Factory Automation from MDT Software

Prevention Is The Best Medicine, Especially When It Comes With A 90% Time Savings.

MDT Software has a field-proven Y2K program that eliminates 90% of the time other methods use to find and resolve date-related problems within Allen-Bradley and Modicon PLC control programs.

Our MASS Y2K AutoScan software performs multiple data scans to quickly pinpoint date-related problems and identify programs that are already Y2K compliant. You don't waste time reviewing every line of code and, more importantly, your time is spent fixing the real problems.

What's more, after the code has been modified, MDT's change management software continues to analyze your programs to prevent Y2K "viruses" from re-infecting your software. Once it's fixed, it stays fixed.

Permanently Protect All Your Factory Software Assets.

The MASS AutoSave platform is a complete automation lifecycle solution with long-term benefits. MDT's software improves the operation of your system with features that provide security, automated backups, seamless program restoration and audit trails for all code changes. This protects your Y2K investment and the software running your intelligent devices.

Get The Right Prescription.

Join other market leaders, like GM, Ford, General Mills, Kraft, Nabisco, 3M, Georgia-Pacific and The New York Times who use MDT Software to meet their factory automation change management needs.

Reach MDT Software at
1-800-5800-MDT
or www.mdtsoft.com.

You can't stop the Year 2000. But you can stop the headache.

MDT software
the change management company

N.H.-based Kennedy Information LLC, a publisher of several industry newsletters, including *Consultants News* and *Global IT Consulting Report*.

Why is the growth in the industry significant for companies? First, the good news. With so many consulting firms competing for clients, the firms will be forced to continually improve their offerings to differentiate themselves. In addition, the sheer number of IT consultants provides organizations with a wealth of choices. The bad news is that, increased competition notwithstanding, high demand will drive up prices. Rates for basic consulting skills like client/server application development will increase 10 percent annually and 20 percent for specialized skills like Java, e-commerce and enterprise resource planning, says Stan Lepeak, a vice president in Meta Group Inc.'s Advanced Information Strategies group in Stamford, Conn. List rates will approach $400 per hour for senior project managers or business consultants and at least $150 per hour for entry-level consultants, he says.

Another negative side-effect of the growth of the consulting industry could be increased conflict between the consulting and auditing arms of the Big Five (Andersen Worldwide, comprising Andersen Consulting and Arthur Andersen, KPMG Peat Marwick LLP, Ernst & Young LLP, Deloitte & Touche LLP and Pricewaterhouse-Coopers). In the past, these firms were centered around their auditing practices. But as client companies shifted their focus from cost cutting and reengineering to growth, auditing became a commodity. The only way auditing practices could compete was by lowering their prices. Conversely, consulting practices at these firms became huge profit centers with unlimited growth possibilities. The auditing sector is now growing only 5 percent to 12 percent annually, compared with consulting's 30 percent or more annual growth, says Arthur W. Bowman, editor of *Bowman's Accounting Report*, an industry trade publication. Consultants are starting to resent

Marshall Cooper, executive vice president of Kennedy Information, says that IT consulting is a major driver behind the overall growth in the consulting industry.

Largest Management Consulting Firms

Firm	Global Consulting Revenues (US$ billions)	Global IT Consulting Revenues (US$ billions)
1. Andersen Consulting	$5.7	$3.3
2. CSC	$3.0	$2.0
3. Ernst & Young	$2.7	$1.6
4. Coopers & Lybrand	$2.4	$1.0
5. Deloitte & Touche Consulting Group	$2.3	$1.2
6. McKinsey & Co.	$2.2	$0.5
7. KPMG Peat Marwick	$2.0	$1.1
8. Cap Gemini	$1.6	$0.8
9. Price Waterhouse	$1.4	$0.9
10. Mercer Consulting Group	$1.3	NA

BASED ON 1997 REVENUES
SOURCE: *GLOBAL IT CONSULTING REPORT* / KENNEDY INFORMATION RESEARCH GROUP (603 531-3101)

PHOTO BY FURNALD / GRAY

Building an enterprise budgeting application

can be like going to hell and back.

Deliver a solution fast with Comshare BudgetPLUS™ – the proven packaged budgeting application now available for your Oracle® database.

For once, the easy road is the best way. Comshare BudgetPLUS, with its single database, open architecture, and built-in intelligence, lets you deliver a robust, Web-enabled enterprise budgeting solution quickly and predictably. And it now runs on Oracle, as well as the leading multidimensional database. BudgetPLUS contains everything we've learned about enterprise budgeting applications—something we've been delivering for over 30 years. So everyone who touches the budget gets exactly what they need to do their jobs—without keeping you from doing yours.

BudgetPLUS is one piece in the total Comshare finance solution. Our integrated portfolio of financial applications includes consolidation and reporting, budgeting, and performance measurement. Together, they help you support your growing and changing organization.

Save yourself with Comshare BudgetPLUS. Call 1.800.922.7979.
Register to win a FREE trip to Paradise Island at www.comshare.com/escape/

COMSHARE®

Copyright © 1998 Comshare, Inc. All rights reserved. BudgetPLUS is a trademark of Comshare, Inc.

"The goal of the Big Five is to never have to bid a project again."

–Stan Lepeak

sharing their enormous profits with the bean counters, and the auditors don't want to let go of the golden cow they helped create. We've already seen this trend in action with the vitriolic split between Arthur Andersen and Andersen Consulting. (The impetus for Andersen Consulting's seeking a separation was ostensibly a disagreement over whether Arthur Andersen's rival consulting practice broke its bylaws by going after Andersen Consulting's clients.) While individuals like Bowman argue the split won't impair quality because only a few of the top partners in each camp are involved, others worry the situation will distract the partners and degrade quality levels. These critics claim that consultants won't be able to provide the best strategic help and advice to their clients if they're jockeying for position and fighting for survival.

One-Stop Shopping

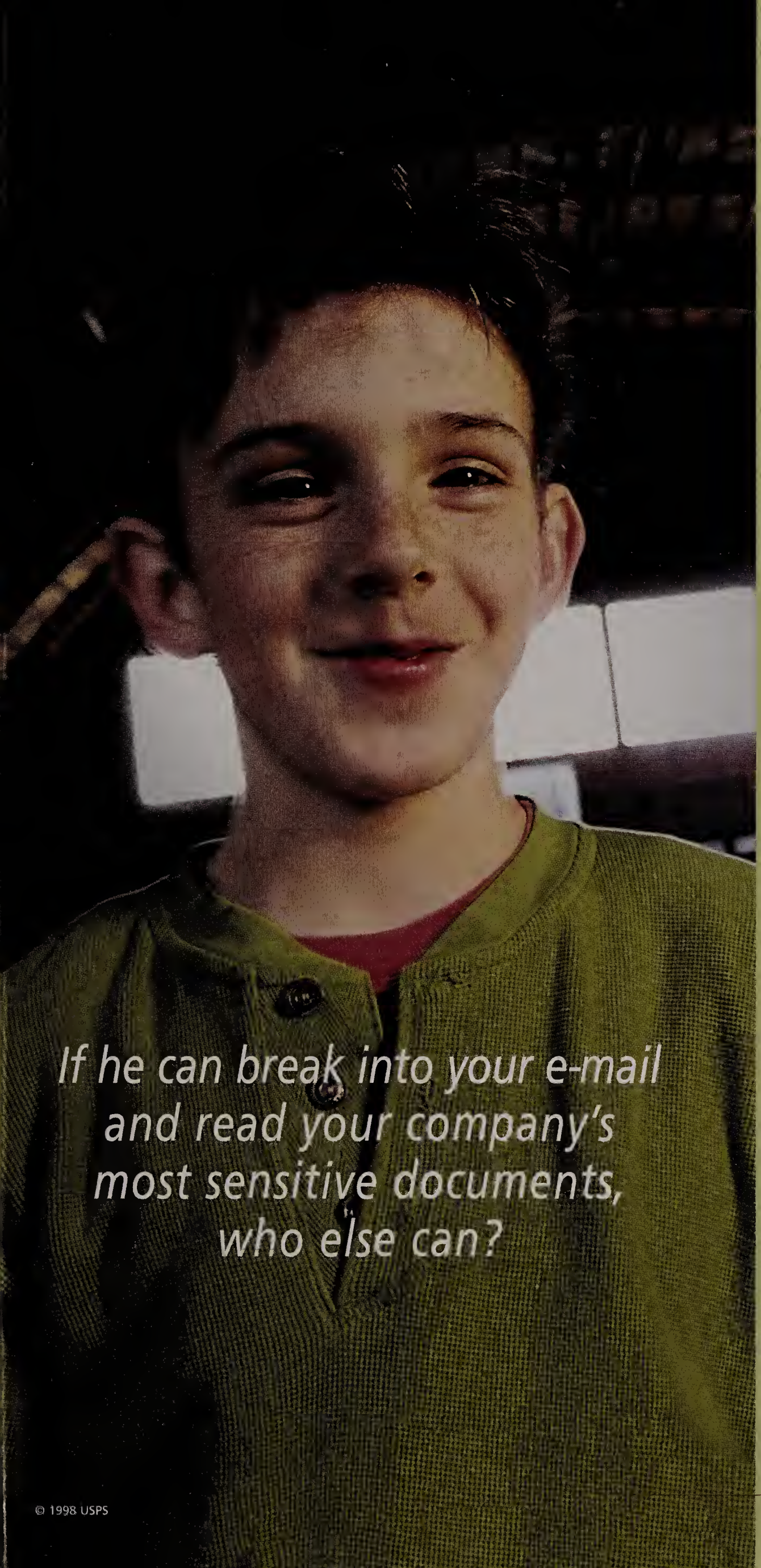
In addition to a boom in the number of consulting firms, the size of individual firms is growing in response to another industry trend: one-stop shopping. Consulting providers are broadening their skill sets and geographic reach to try to fill their clients' every need. Since a single application can involve many different types of technologies and extend across the globe, it makes good business sense to have all major competencies in-house. The natural tendency, therefore, will be for providers to swell to gigantic proportions as they merge with or buy other firms that can expand their skills base. The recent merger between Coopers & Lybrand LLP and Price Waterhouse LLP and the failed KPMG/E&Y merger are harbingers of what's to come. Providers that can't compete on size will still try to offer one-stop shopping by outsourcing a chunk of a client's project to another firm while maintaining responsibility for the overall project.

Arthur Bowman, editor of Bowman's Accounting Report, *doesn't think the split between Arthur Andersen and Andersen Consulting will affect their ability to do business.*

PHOTO BY SONNY WILLIAMS

Besides beefing up on all major technology and strategy disciplines, firms are expanding their services beyond merely offering advice—many will gladly help clients implement technology solutions. That's exactly what clients want: 80 percent of companies that use an IT consultant would prefer that the consultant help them with implementation, says Denny Wayson, director of Dataquest's consulting and systems integration program in San Jose, Calif. Even strategy shops like A.T. Kearney Inc. or McKinsey & Co. Inc., which in the past portrayed themselves as lofty strategists above base technology concerns, are getting into implementation.

Another advantage offered by huge, diverse firms is that clients get the brainpower of thousands of smart people. Knowledge management tools, best practices databases and the Internet make it possible for consultants to draw upon the knowledge of every consultant in the organization—as many as 27,000 people in a firm like Pricewaterhouse-



With Post Electronic Courier Service – Post E.C.S. – you'll soon be rethinking how you send your company's most sensitive documents.

Post E.C.S. gives you fast, secure, confidential document delivery over the Internet – at a fraction of overnight delivery costs. With Post E.C.S., you can feel confident that your documents are protected with multiple levels of security and rest assured because Post E.C.S. overcomes the problems of incompatible systems and unreadable attachments. And at the end of the day you can relax, having confirmed your business partners and customers received what you sent. Soon, Post E.C.S. will include the additional capabilities of tamper detection and an official time and date stamp. The bottom line–Post E.C.S. promises the traditional reliability you've come to trust from the United States Postal Service. Post E.C.S. is currently available in a pilot program. For more details, call 888-377-8675.

UNITED STATES POSTAL SERVICE.

We deliver.

© 1998 USPS

Coopers, for example. Large firms also invest huge amounts of money in research and development. E&Y, for instance, puts 10 percent to 12 percent of its revenue back into R&D, says Roger Nelson, deputy chairman for consulting services at E&Y. Last year Andersen Consulting spent 6 percent of its revenue in training, or $300 million, says Bill Ziegler, director of Andersen's Americas Technology Recruiting division. "Client problems are now so complex that in many cases it's not possible to develop all the good ideas the client needs during the time the client signs up," explains Stephen Sprinkle, Deloitte & Touche Consulting Group's managing director of service lines. Finally, the one-stop shopping model means that clients have to go through the onerous consultant selection and RFP process only once.

But there are also downsides to this Sam's Clubbing of consulting firms. No firm can do everything well, says Lepeak. Moreover, relying on a single provider makes clients vulnerable to mediocre service. If a firm feels confident it has a customer in its pocket, it may become complacent and cease to offer the best effort and price. And by not checking who else is out there, clients may not get the best experts for their problem. "The goal of the Big Five is to never have to bid a project again," Lepeak continues. "They don't want their partners doing sales calls and wasting time competing against smaller, nimble, more efficient competitors."

Another foreseeable consequence is that midsize companies may be ignored or neglected by behemoth providers. As the big firms get bigger, they'll likely focus their sights on mega-customers that can pay top dollar or on companies with exciting, cutting-edge projects they want to be associated with. Midsize companies (under $1 billion in sales) could get lost in the shuffle, says Cooper.

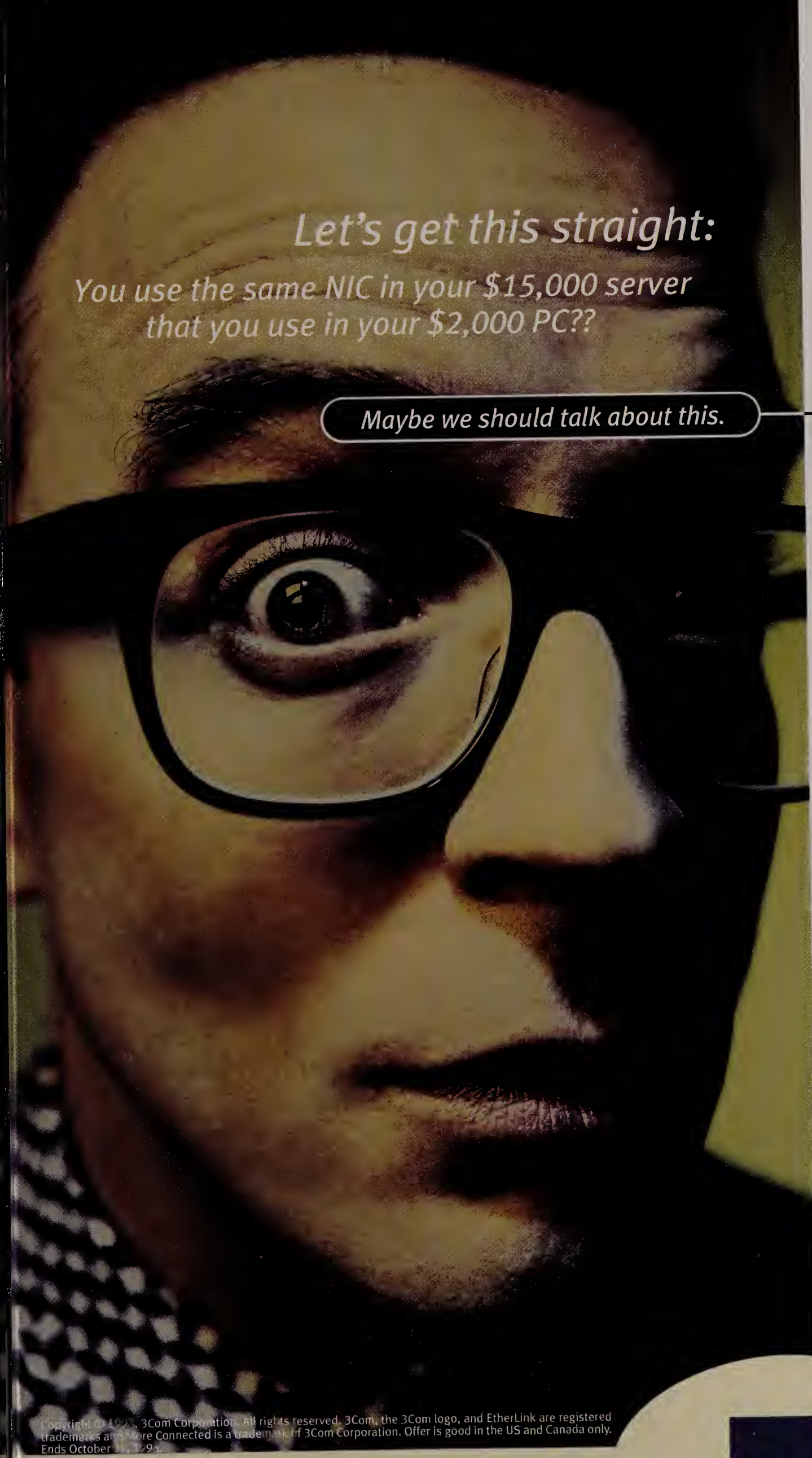
The Small of Success

While the world watches the big firms duke it out for supremacy, countless boutiques are quietly joining the fray. They follow a different strategy—being the very best at a narrow competency. "If you own a race car, do you want to bring it in to a local shop that can fix Hondas and Fords, too? Or do you want to take it in to a specialist who can really tune a race car?" asks Ken Rudin, CEO of Emergent Corp., a San Mateo, Calif.-based systems integration boutique.

Many companies find this argument convincing. "The ability of small firms to be taken seriously is increasing," says Lepeak. "Whereas a few years ago companies would complain about the Big Six but would never consider a small firm, today those small firms are being taken more seriously and are getting business." Indeed, while large providers are enjoy-

Denny Wayson, director of Dataquest's consulting and systems integration program, says 80 percent of companies that use an IT consultant prefer that the consultant help them with implementation.

PHOTO BY KENT HANSON



3Com Server Networking

All NICs are not created equal. When connecting a mission critical server to your network, you need a

---

THE FAST ETHERLINK® 10/100 SERVER NIC

Self-Healing Drivers.
Resilient Server Links.
Lifetime Limited Warranty.

{ BUY *TWO* FAST ETHERLINK SERVER NICS FOR JUST $139! }
1-888-906-3COM, ext. 130.

NIC that won't let your server link fail. One that can solve problems before they start. One with redundant connections. In short – a 3Com® Server NIC. Only 3Com Server NICs feature Self-Healing Drivers, making unexpected failures a thing of the past. And with Resilient Server Links, you've got maximum server uptime. It's all part of the 3Com complete server networking solution, backed by a lifetime limited warranty.

Glad we had this talk.

Visit www.3com.com/servernic/cio for more information about 3Com Server NICs, or call us at 1-888-906-3COM, ext 243.

Copyright © 1999, 3Com Corporation. All rights reserved. 3Com, the 3Com logo, and EtherLink are registered trademarks and More Connected is a trademark of 3Com Corporation. Offer is good in the US and Canada only. Ends October 31, 1999.

3Com® More connected.™

ing 10 percent to 25 percent growth per year, established boutiques are growing at a 50 percent to 100 percent annual clip, he says.

Boutiques have an advantage over giants in that they can ramp up on a new technology quickly, whereas big firms take a year or two, says Lepeak. But choosing a small firm requires more work on the part of clients to separate the dross from the real experts. And boutiques are a riskier choice because they could get bought up tomorrow or go out of business. Finally, unless they have established relationships with other consultancies, most smaller consulting companies aren't qualified to work on large, complex efforts or dispersed geographic initiatives. As for trying to juggle several best-of-breed boutiques for a single solution, "It's a complex process that few organizations have the skills or resources to manage," says Lepeak.

The best approach probably is to use a combination of large and best-of-breed providers. "When working on a large project like SAP or a global rollout, go with a large consultancy," says Lepeak. "But when looking at smaller projects or new technologies, put out a bid to see what else is out there. Make the provider work to get your business." Lepeak predicts that by 2002, the biggest client companies will have close, informal partnerships with one of a handful of mega-providers. But those companies will spend 25 percent of their service dollars with boutiques, often for highly visible projects.

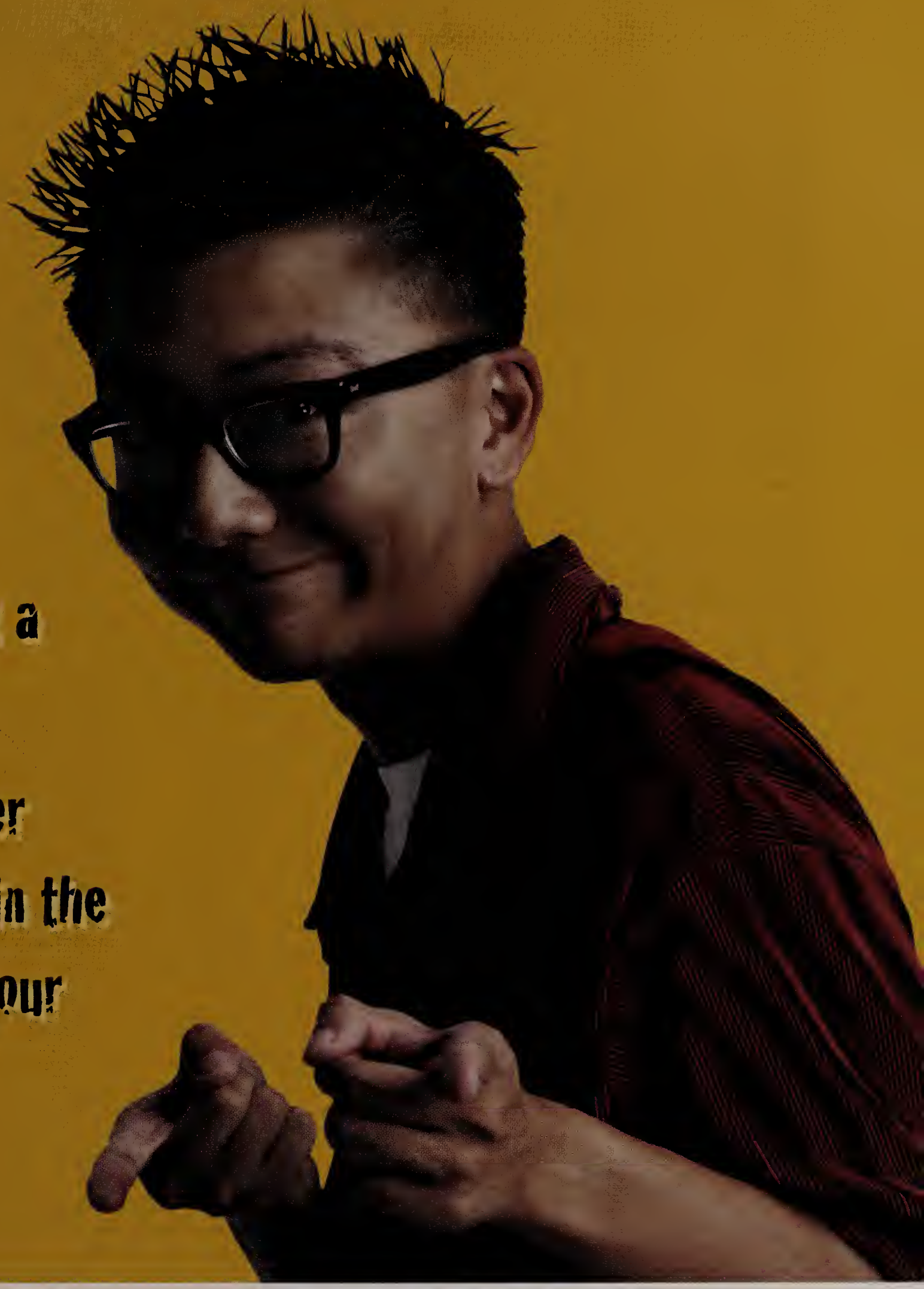
Stephen Sprinkle, managing director of service lines for Deloitte & Touche Consulting Group, understands the value of investing heavily in research and development.

PHOTO BY PARISH KOHANIM

New Business Models

Part of the appeal of boutiques is their user-friendly, hands-on business model. Client organizations have grown weary of big, impersonal firms where only junior people return their calls. They're also tired of paying time and materials for projects that drag on for years. Boutiques play to this frustration. To combat this encroachment, large firms are adopting some of the elements that make boutiques so appealing. One of their focuses will be knowledge transfer. In general, smaller firms have traditionally been better at giving one-on-one attention and helping clients learn how to do things for themselves. Large firms, on the other hand, are notorious for swooping in, fixing the problem and leaving with only a cryptic white paper report in their wake. But increasingly, even large firms are making an effort to transfer their knowledge and processes to clients so they'll be able to carry on when the consultant leaves. Companies will place an increasingly high premium on what consultants can offer in terms of knowledge or skills beyond an engagement when they send out an RFP.

Companies will also start demanding alternative pricing arrangements based on fixed time and price billing. Engagements will be shorter and the scope more carefully defined. Cambridge, Mass.-based Cambridge Technology Partners Inc. pioneered this tactic, thus forcing the rest of the



Spend one day changing a child's life.

(And the other 364 basking in the splendor of your brilliance.)

Register now for the competition of the year at WWW.WEBMASTERS98.COM

One day. That's all it takes to make a difference to seriously ill children, and become rich and famous. Register for the Masters of the Web Design Competition. Where you, along with some of the world's top web designers, will create a website for a STARBRIGHT Foundation initiative. **Drop by www.webmasters98.com to find out more** and don't miss your chance to leave your footprint in cyberspace.

Presented by: Masters of the Web

To Benefit: STARBRIGHT; the computer museum

Sponsored by: TRINITY Communications, Inc.; DIGEX AN INTERMEDIA COMMUNICATIONS COMPANY; PLANET INTERACTIVE; Daniels

industry to follow suit. Using rapid application development (RAD) techniques, Cambridge dramatically reduces the time and price needed to complete major projects, thereby reducing the risk to its clients. Cambridge's goal is to complete projects that could take a traditional consultant two years in two to six months, says Chris Williams, vice president of marketing. The overwhelming popularity of RAD is one of the reasons why the company is growing 50 percent to 60 percent annually—almost twice the rate as the industry overall, says Williams.

In addition, consultants are beginning to accept more of the risk of implementation. RLG International in Vancouver, for instance, promises a 4-to-1 return on its fees in the first year. To make this possible, a full-time RLG coach stays with the client for two years and works with employees to help them modify unproductive behavior. Similarly, Menlo Park, Calif.-based Strategos insists that its clients do the actual work, instead of relying on "substitute brains," says CEO Linda Yates. Strategos guarantees that it will help the client achieve its stated goals, or the client is entitled to a complete refund on Strategos's fees. "Almost every product or service you buy has 100 percent guarantees," she says. "Why is it that consulting hasn't held itself up to the same standards?"

"Our biases are more obvious. With others you have to go digging to find their biases."

–Jim Sherriff

People Shortage

The greatest threat to the explosive growth of consulting firms is their inability to get enough people in the door. According to Cooper, roughly 250,000 new consultants will be needed by the year 2000. The result could be more inexperienced or incompetent consultants working with clients—assuming businesses can get booked into a consulting firm's schedule at all. "All providers will suffer from staff/skills shortages," Lepeak wrote in a Meta Group report about the industry. "This will drive increased IROCs (idiots right out of college) usage, drive up rates (10 percent to 25 percent annually), negatively impact service quality and disrupt longer-term projects as key staff defect."

Some firms are already devising creative solutions. PricewaterhouseCoopers, for example, launched its own accredited MBA program—geared toward the specific needs of consultants—just for its employees and recruited 300 of its own auditors to switch careers and become technical consultants, says Scott Hartz, global leader of PricewaterhouseCoopers' management consulting practice. It also built stationary hubs for such expertise areas as systems architecting and database tuning, where consultants can process a high volume of projects without having to travel to the client site. These hubs significantly lower the cost of the engagement for clients and consultants alike. More important, it reduces turnover because consultants don't have to travel to client sites all the time. "If you're with a consultant with a strong vertical focus, then chances are [the people working in hubs] have seen your situation before and know how to solve it," says Cooper.

Ultimately, the consulting firms will probably muddle through. Smart people will continue to gravitate toward the consulting profession, especially with its heightened demand and visibility, not to mention inflated salaries. True, many of these people will be freshly minted college or MBA grads, especially at the Big Five because of their prestige and commitment to training. Small firms, on the other hand, tend to lure experienced consultants with the promise of IPOs and the chance to make a greater individual impact. Yet it's important to

Savvy Marketing

Consultants do an end-run around IS and take their case directly to company executives

Another trend for companies to be cognizant of is that consulting firms have become much more clever in their marketing efforts. One could even call it sneaky. Not only are they spending tons of money on advertising, but they're getting smart about who to target with their pitches—IT consultants are going directly to the business side of the company rather than to IS. (See "The Pitchman Cometh," *CIO* Section 2, Jan. 15, 1998.) Because consultants and advertisers are usually much better at selling a vision than the technical folks in IS, executives can be swayed by consultants' presentations and buy into a system without doing due diligence. "EDS and Andersen are getting to be masters at this," says Stan Lepeak, a vice president in Meta Group Inc.'s Advanced Information Strategies group in Stamford, Conn. The consequence, of course, is that the consultant's solution may not integrate with the rest of the company's systems and strategic goals. The best course of action is for people on the business side to form a partnership with IS to screen proposals together and then select the solutions and consultants that best match the organization's overall strategy. *–J. Bresnahan*

TBI
TECHNOLOGY & BUSINESS INTEGRATORS

CONSULTANTS OF CHOICE IN BUSINESS TRANSITION CONSULTING

BUSINESS TRANSFORMATION SEMINAR SERIES

Chicago • Hyatt on Printers Row

October 13 • 8:30 am-12:30 pm

Boston • Crown Plaza Hotel

November 16 • 8:30 am-12:30 pm

www.tbicentral.com

800-676-9470

JOIN US AS WE WALK THROUGH

THE EVOLUTION OF

IT OUTSOURCING &

*IT*S EXPLOSION INTO THE FUTURE

INDUSTRY LEADING SPEAKERS INCLUDE:

PAUL JOHNSTON, IDC, THE TBI/IDC STUDY OF $10 BILLION WORTH OF OUTSOURCING DEALS.

JOE FREBURGER, LOCKHEED MARTIN, A BEHIND-THE-SCENES VIEW OF VENDOR/CLIENT RELATIONSHIPS.

STANLEY GOLDMAN/HOWARD LACKOW, TBI, THE EXPLOSION OF IT INTO BUSINESS PROCESS OUTSOURCING.

JOE VALES, PRICEWATERHOUSECOOPERS, A GLOBAL VIEW OF BUSINESS PROCESS OUTSOURCING.

produced by: TBI TECHNOLOGY & BUSINESS INTEGRATORS

in association with: IDC

sponsored by: LOCKHEED MARTIN PRICEWATERHOUSECOOPERS

remember that even though Big Five consultants may be younger overall, they are often exposed to more implementations than an experienced consultant at a small firm, given the sheer volume of work done at the Big Five.

Whose Side Are They On?

Vendors are also rushing to get into the consulting game. To counter declining margins in hardware and software, many vendors are launching or buying consulting practices as a way to build long-term relationships with customers and to enhance profits. The arguments for going to a vendor are the same as going to a boutique—specialty expertise. The catch, however, is that vendors have a vested interest in pushing their own products. "Vendors cannot provide objective advice," says Lepeak. "They're appropriate to use when you're already using that vendor's products, but you shouldn't go to them if you haven't already made the decision that that's what technology you want to use."

Predictably, vendors beg to differ. "As any consulting firm must do to succeed, we always do what is in the best interest of the client," says Paul R. Lewis, general manager of the IBM Global Services Consulting Group in Sleepy Hollow, N.Y. And that sometimes means pointing them toward a competitor's product, he says. Besides, no consultant is truly objective, says Jim Sherriff, general manager of Hewlett-Packard Co.'s HP Consulting in Mountain View, Calif. Even independent consultants have ties with vendors. "Our biases are more obvious," says Sherriff. "With others you have to go digging to find their biases."

Ultimately, though, people don't really care whether their consultants are objective or not. Every year Wayson surveys 500 buyers of IT services about what matters most to them in consultants. Objectivity used to be one of their biggest concerns, but in recent years it's fallen off the charts, says Wayson. Instead, the top three concerns are technical expertise, industry knowledge and project management skills, all of which can be found in the vendor community. "People care about consulting skills," he says, "not what box it's in."

With all of these changes in the mix, consulting may never look the same again. Companies that work with consultants would do well to consider how these new trends might affect their dealings with consulting firms. To summarize in consultant-speak: Before contracting with a third-party transformational service provider, consider the desired end-state of utilization, map a number of viable scenarios and use those lessons to inform your business decisions, uncover best practices and bring them to bear in your own organization. In other words, do your homework. CIO

Jennifer Bresnahan is a former senior writer at CIO.

Virtual Advice

Goodbye face-to-face, hello face-to-screen

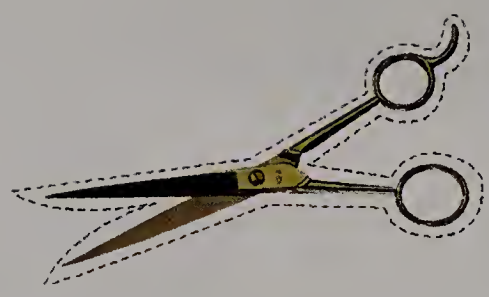
Using actual people to impart knowledge is expensive because it keeps them away from other tasks. But if providers can automate basic consulting functions, they can provide value at a fraction of the cost and pass those savings onto their clients. Many consulting providers are currently experimenting with CD-ROMs and the Internet as automating tools.

The best known of these is probably Ernst & Young LLP's Ernie. Ernie is a Web-based community in which subscribers can submit questions directly to Ernst & Young. The questions are then forwarded to the appropriate E&Y consultant wherever in the world they may be. (See "Ernie Power," Trendlines, *CIO* Section 1, Nov. 15, 1997.) Another example of automation is Arthur Andersen's KnowledgeSpace, which features global best practices databases, interactive diagnostic tools and online broadcasts and discussions. (See "Business Class," Plugged In, *CIO* Section 2, July 15, 1998.)

Eventually, 90 percent of basic consulting functions will be automated, says Neal Goldsmith of emerging technology market-strategy shop Tribeca Research Inc. in New York City. "Ernie is just a first stake in the ground," he says. Natural language integrity and artificial intelligence are just two tools that will aid consultants in automating their services.

What does this mean for clients? It depends on how comfortable they are with technology. Automated consulting will be cheaper, but it cannot offer the personal attention of a live consultant. Regardless, companies should at least be aware that automation is coming and ask their consultants what their plans are in this arena. *–J. Bresnahan*

www.comdex.com
And in this corner...
COMDEX is where the future of technology comes out fighting. It's the main event for every IT professional who wants to weigh in as a heavyweight — and walk away with business answers and bottom-line value. For exhibitors, it's a chance to reach audiences that will spend more than $250 billion on IT in 1998. For IT professionals, it's the opportunity to make enlightened technology decisions and stay one step ahead of the competition. So now that you know COMDEX is in your corner...does your business have a ringside seat?
COMDEX®
technology's main event
In North America and around the world: LAS VEGAS • TORONTO • VANCOUVER • CHICAGO • MONTREAL • MIAMI BEACH
SAO PAULO • SINGAPORE • LONDON • MONTERREY • NEW DELHI • PARIS • BEIJING • TOKYO • CAIRO • MEXICO CITY • BUENOS AIRES • SEOUL
Next round: Las Vegas, November 16 – 20, 1998 • Vancouver, January 11 – 13, 1999 • Chicago, April 19 – 22, 1999
© 1998 ZD Events Inc. All Rights Reserved • 300 First Avenue, Needham, MA 02494-2722 • 781-433-1500 UE98-3046 8/98
ZD ZIFF-DAVIS a SOFTBANK company

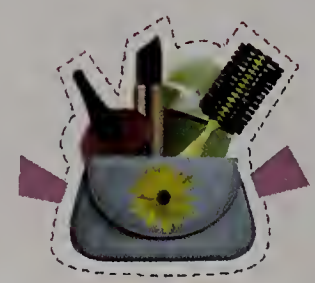


Let's Consul

Did you ever want to have greater control over your consultants? Create your own on these pages!

Calvin Klein

"Chris"



Chanel

Ann Taylor

The Gap

Ferragamo (partners only)

Ray-Ban

Gucci

Rolex

Play ltant!

cutting-edge tool

THE RESULTS ARE IN! FROM A VAGUELY exhaustive and thoroughly unscientific survey of consultants willing to participate, that is. We polled consultants about the habits and preferences of staff at their companies to create this composite archetype—complete with accessories and vocabulary. Is your consulting firm on these pages? Could you, too, become a consultant? Play along and find out.

The Gap

"Chris"

Banana Republic

Armani

Hugo Boss

Tag Heuer

Walter Genuine

Oakleys

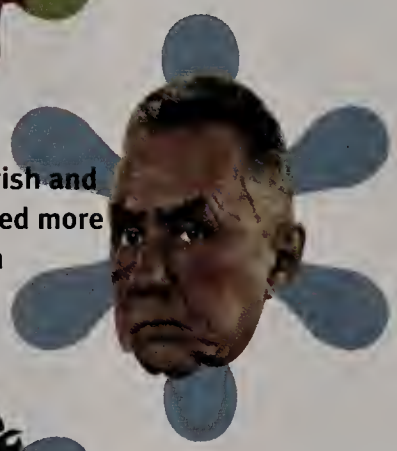
Cole-Haan

ILLUSTRATIONS BY STEPHANIE POWER / REACTOR

Gestalt

Describe the Gestalt of Your Organization:

- We're young, energetic and collegial, with a great team atmosphere.



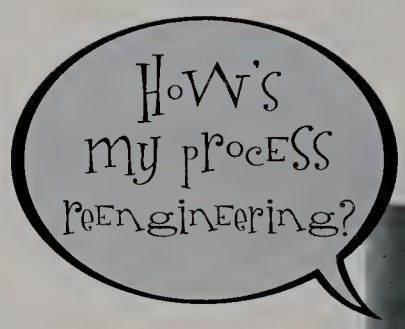
- Our firm is old-boyish and hierarchical, focused more on operations than strategy.

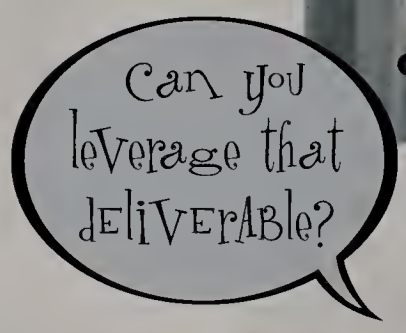
- Call us renegades: We're vibrant, vanguard, iconoclastic and growing.

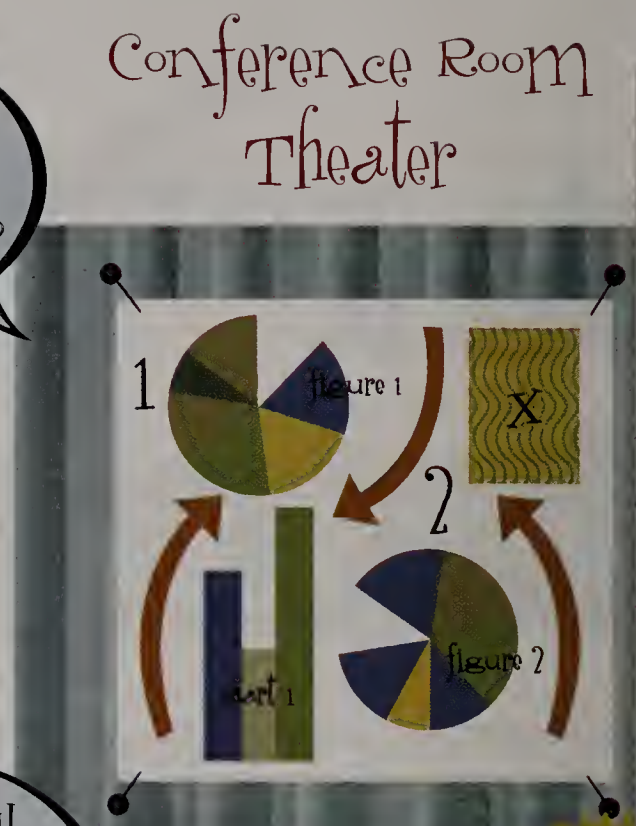
- Our consultants are smart, creative, ambitious and want everyone else to know it.

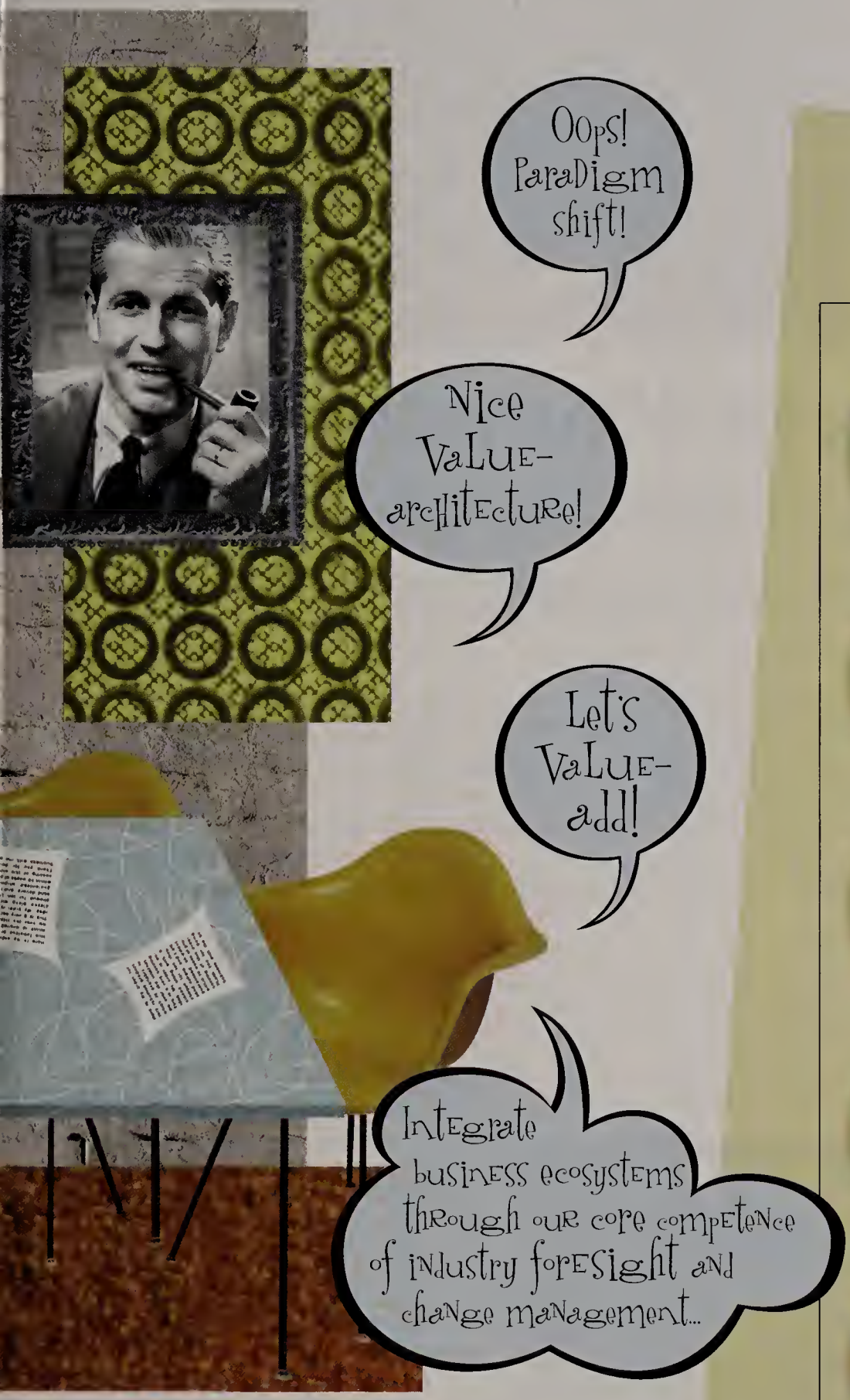
- Everyone starts out young and vibrant, but because they constantly work until midnight, don't end up that way.

- Other.









Charts!

What kind of car do your consultants tend to own?

- BMW 40%
- SUV 20%
- Lexus 10%
- Mercedes 10%
- Other 20%

What sports or hobbies do your consultants pursue?

- Golf 45%
- Skiing 23%
- Extreme sports 17%
- Biking 7%
- Other 8%

How many frequent flier miles do your consultants accrue per year?

- fewer than 50,000 27%
- Enough to give friends trips to Hawaii as gifts 31%
- 100,000 to 500,000 36%
- more than 500,000 6%

How many children do they have?

- fewer than two 26%
- two 57%
- more than two 17%

Would their parents want them to become consultants when they grow up?

- Yes 68%
- No 32%

Jargon Quiz

Match the words at left with the descriptions at right

1. C2 Sector	A. I wish I knew
2. Kluge	B. Inexperienced consultants
3. Funkies	C. People with functional expertise
4. Green Beans	D. Idiots right out of college
5. IROC	E. Computers and communications
6. IWIK	F. Mess

ANSWERS: 1-E; 2-F; 3-C; 4-B; 5-D; 6-A

* fine print

Editorial consultants Sandy Kendall, Daintry Duffy and Tom Wailgum, and art consultant Steve Traynor contributed to this article.

Margin of error is ±49 percent. CIO

Methods of Payment

The way you choose to pay the piper may determine how happy you are with the tune

BY GEOFFREY JAMES

IN CONSULTING ENGAGEMENTS, PAYING THE PIPER doesn't necessarily mean calling the tune. The way the piper is paid—the consulting fee structure—materially affects the obligations of both parties. Moreover, the choice among payment options can significantly influence the way the work gets done, the quality of the outcome and the ultimate satisfaction of the customer.

There used to be only two fee structures: billable hours (time and materials) and fixed price. Today, however, there are also hybrid models that include some features of both, as well as novel arrangements that define a variety of ongoing financial and business relationships between consultants and their customers. Each option (see "Consulting Fee Structures at a Glance," below) has advantages and disadvantages, and the choice of fee model should be carefully weighed against the nature and goals of the project.

Until recently, the majority of IT consulting contracts were based on a billable-hours fee structure, with the consulting firm supplying personnel to define, develop or support a required system. Ideally, such arrangements give customers as-needed access to specialized technical expertise that may not exist in-house. An exclusive *CIO* survey shows that this is by far the most oft-cited reason (74.4 percent of respondents) for hiring IT consulting help (see "The Strangers in Your Midst," Page 30). Renting the consultant's skill set is more practical and cost-effective than recruiting frequently hard to find permanent employees. The danger, however, is that speedy delivery of the needed solution may not be in the consultant's best economic interest.

Consequently, making a billable-hours arrangement work requires a set of stringent acceptance criteria and time and budget milestones that can keep the project on target. "A good contract will specify deliverables at specific phases of the project that can be measured and recognized by both sides of the team," says Carolyn Purcell, executive director of the State of Texas Department of Information Resources. "Those deliverables and milestones are extremely important."

UOP Inc., a petroleum-processing technology company in Des Plaines, Ill., learned this lesson the hard way. UOP hired Andersen Consulting in May of 1992, expecting to pay $15 million for a new computer system to handle project bids. But by December of the following year, UOP concluded that it had already paid

Consulting Fee Structures at a Glance

FEE STRUCTURE	MAIN ADVANTAGE	MAIN DISADVANTAGE	KEY TO SUCCESS
Billable Hours	Potentially cheaper than a fixed-price contract.	Consultant may convince end users to keep adding features.	Penalties for missing milestones and bonuses for on-time delivery.
Fixed Price	Customer knows exactly how much it's going to cost.	Customer may be overpaying for fairly standard work.	Negotiate the fixed price only after you know how much work needs doing.
Billable Hours with a Fixed-Price Cap	Customer knows upper limit of how much it's going to cost.	Consultant will make certain that the upper limit will be reached.	Don't kid yourself into thinking that it will cost less than the price cap.
Fixed Price with Billable Hours for Extra Features	Customer has flexibility to add new features as necessary.	Consultant may convince end users to keep adding features.	Make certain that the IT group makes the final decision on any change.
Development Partnerships	Possibility of future revenue for the customer.	Future revenue will probably never materialize.	Cut the deal without any grand expectation of future revenue.

PHOTO BY PHOTONICA

Learn How Other Organizations Are

Managing, Using and ***Deriving*** Business Value

From *Intranets* and the *Internet*

In its most recent **CIO ConsultWare Series**, CIO Communications and ICEX Research have produced another valuable resource for IT policy makers and implementers. *Mastering Your Intranet/Internet: Policies, Procedures & Best Practices* truly lives up to the promise of its title, presenting a comprehensive and critical study of the realities of Intranet and Internet usage within corporations. This report presents a valuable example of how IT organizations can successfully adapt their traditionally rigorous IT practices to the realities of corporate Intranet and Internet usage.

Corporate Internet Usage Policies: What kinds of companies have implemented corporate Internet policies and why? What do such policies cover? How are they enforced?

Process for Setting and Managing Internet Use Policies: Who is responsible for setting and enforcing policy? What are the challenges facing companies that implement Internet policies? How are such policies communicated?

Security and Policy Enforcement: Is monitoring effective? What sanctions have been imposed for improper use?

Breakdown By Size and Industry: How does annual revenue and size of company affect Internet/Intranet policy making and procedures? Are different industries doing different things?

Corporate Intranet Practices: How is Intranet content managed? How are Intranets being used, and what are the results? Who pays for Intranets?

Corporate Web Practices: Who is responsible for designing, developing, and managing corporate Web sites? How are companies currently using their Web sites? What have been the business results?

For $1,495 (plus $11 shipping and handling), you'll receive the 80+ page report and a disk containing a sample memo to your employees, a sample policy document and a PowerPoint presentation. Please contact Dot Caspersen at 508 935-4040 or research@cio.com to order a copy. Or fax the enclosed order form to 508 879-1957.

Mastering Your Intranet/Internet: Policies, Procedures & Best Practices

☐ Please send me the "Mastering Your Intranet/Internet: Policies, Procedures & Best Practices" study.

Please mail this order form to CIO Communications, Inc., 492 Old Connecticut Path, Framingham, MA 01701 or fax to 508 879-1957.

☐ Please bill me. P.O. required
P.O. #_____

☐ I've enclosed a check for $1,495 plus $11 for shipping and handling

☐ Please charge my credit card.

CARD _____

NO. _____

EXP. DATE _____

NAME _____

TITLE _____

COMPANY _____

ADDRESS _____

CITY _____ STATE _____ ZIP _____

TELEPHONE NO. _____

FAX. NO. _____ EMAIL _____

CIO

CIO COMMUNICATIONS, INC.

492 Old Connecticut Path
Framingham, MA 01701
(508) 872-0080 • www.cio.com

An IDG Company

$8 million in billable hours for a system that not only didn't work but would cost a grand total of $21 million to get up and running.

The reasons for the cost overrun, according to Tobey Marzouk, an attorney based in Washington, D.C., who specializes in software litigation, were a lack of stringent acceptance criteria along with a failure to adequately define project success. "All Andersen was contractually obligated to provide was warm bodies," says Marzouk. "There was no firm promise that anything useful would actually be produced."

Another hazard of the billable-hours fee structure is bait-and-switch staffing. The largest consulting firms are particularly guilty of this, according to Marty Glavin, a principal at Nextera Enterprises LLC's Sigma Consulting Group in Rochester, N.Y., who used to be a senior manager at two of the Big Five firms. "You have a senior partner who does the selling and acts as the lieutenant to the client's senior management, but then the project gets staffed by a lot of kids right out of school." To avoid the bait-and-switch syndrome, customers need to tie the fee structure to the actual people who will do the work. A good contract, says Purcell, "[contains] some warranty upfront that the people who do the work are the people who are in the contract and [provides for] a penalty to the vendor if those people aren't available."

Because many customers have grown leery of billable hours, some consulting firms now offer contracts with a fixed-price fee structure. One pioneer of this model is Cambridge, Mass.-based Cambridge Technology Partners Inc. "We guarantee the price," says President and CEO Jim Sims. "If applications are late, we assume the costs." A key element of Cambridge's fixed-price contract is the company's application development methodology, which allows users to see what they're getting, reducing the likelihood of potentially costly, after-the-fact changes to the system. (See "The Latest in Suits," Page 74.)

Fixed-price contracts are not a panacea for runaway projects, however. This is especially true if the contract provides for open-ended expenses, according to Karen Boucher, vice president of The Standish Group International Inc., an IT market research firm in Dennis, Mass. Boucher cites a pharmaceutical company that hired a major consulting firm to revamp its customer-information system under a fixed-price contract. Unfortunately, the contract also specified that the customer was responsible for the transportation, room and board for some 20 consultants, who flew first class, stayed in luxury hotels and ate at gourmet restaurants while on assignment. The result: a bill for expenses alone that totaled 120 percent of the original fixed price.

Fixed-price contracts can also be, well, pricey. Sometimes the amount of customization required to adapt a standard application to a customer's requirements is far less than the customer is led to believe. Thus, customers can end up paying too much for what may turn out to be relatively trivial amounts of work. Fixed-price contracts can become even less cost-effective when the consultant doesn't know exactly what's needed. Typically, says Marzouk, in such cases "the consultant will inflate the fixed price until it reaches his or her comfort level," and the project ends up costing far more than it otherwise might have.

Customers should always maintain ultimate authority and control.

Customers sometimes try to hedge their bets by combining the billable-hours and the fixed-price fee structures. One way to do this is to hire the consultant on a time-and-materials basis but have an upper limit on how much can actually be spent. But while setting a price cap might seem like a smart idea, the likelihood of any real cost savings is small, because the consultant will probably make certain that the number of billable hours magically ends up equaling the price cap. "It's like telling a building contractor that you'd like to spend from $10,000 to $25,000 on a new kitchen," says Marzouk. "Guess what? You're going to end up with a kitchen that costs right around $24,999."

Another hybrid of the billable-hours and fixed-price models can be found in contracts that contain a provision for billable hours should the customer want to add features not included in the fixed-price deal. It is sometimes essential to project success to be flexible and to be able to add features, and a good contract should always include mechanisms for making reasonable changes, especially when the customer lacks the upfront discipline to define the system completely before it is implemented. There is, however, a danger that change requests, even reasonable ones, could turn the engagement into a runaway project. To prevent this, the customer needs to put in place a process to determine what is and what isn't a reasonable addition, as well as monitor the delivery dates and acceptance criteria of those changes. Without this, even a fixed-price project can spiral out of control and become an open-ended billable-hours engagement.

Some customers have tried to overcome the limitations of traditional fee structures by entering into business partnerships with their consultants, according to Ellen Kitzis, vice president of Dataquest's IT Services organization. "In a couple of cases, we're seeing joint ventures where vendor and client both have an economic interest in the success of the project," explains Kitzis. "In some cases, [they are] creating separate entities that will share profits and losses." For example, a few years ago, Swiss Bank Corp. and Perot Systems Corp. cut a deal, estimated at $6.25 billion over 25 years, for Perot to manage IT operations at the bank's investment banking division. The agreement gave Perot Systems a 40 percent share in the software development and sales subsidiary of Swiss Bank. In return, the bank received an option to purchase an approximately 25 percent stake in Perot (see "The Odd Couple," *CIO*, May 15, 1996).

Such agreements, however, are relatively rare, says Charles Madigan, coauthor of *Dangerous Company: The Consulting Powerhouses and the Businesses They Save and Ruin* (Times Books, 1997). "Only 2 percent of contracts have risk-sharing," says Madigan. And even when such contracts are cut, it doesn't necessarily mean that the customer and consultant will fall into lock

step, with each committed to the other's success. In the Swiss Bank deal, for example, the project was eventually reduced to $2.5 billion over 10 years, with Swiss Bank alleging that Perot Systems overestimated the cost savings to win the contract, according to a report by The Standish Group.

But risk-sharing arrangements aren't limited to megadeals with stock swaps. Sometimes customers simply hope to recoup some of their development costs by selling the software the consultant developed for them to other companies. However, that's an unlikely strategy unless the contract specifically gives the customer a financial interest in the software. "The default is for the consultant to own the copyright on the software unless the contract has a written assignment giving the customer rights to it," says Marzouk. And even then, the customer is unlikely to realize much return. Even if the project results in a generically useful software component, the consultant will tend to structure the eventual product so that the contribution of the initial customer's project is difficult to isolate. "The client shouldn't bank on a penny," Marzouk says.

Rather than worry about making money on the deal, customers should focus on making certain that the deal doesn't end up costing more than originally anticipated. That's particularly risky when it comes to the maintenance and repair of any system, regardless of the fee structure. "On the business side, you want everything to be as clear as if it were written by Moses," says Madigan. "You have to veer away from anything that's murky." The worst kind of contract, he says, is one that includes language that, when translated out of legalese, boils down to "We'll just keep fixing it until it works." That's a recipe for cost overruns, because in many cases, contracts specify that the customer must pay for ongoing maintenance of the system. Boucher echoes both Madigan and Marzouk: "A contract should have no loopholes. It should clearly state what happens if the consultant doesn't do the job correctly or doesn't deliver what was promised or delivers the product long after the original deadline."

Boucher also recommends that every project team consist of a mix of employees and consultants, with at least 50 percent of every team staffed by permanent employees. She further recommends that the project leader be a permanent employee that reports directly to the customer's IT management. Without these controls, she says, "it's too easy for [the consultants] to lead the project the way that they would like it to go."

In other words, the fee structure and the contract should give the customer ultimate authority and control over the project. CIO

Geoffrey James is the author of Success Secrets from Silicon Valley *(Times Books, 1998). He can be reached through* www.businesswisdom.com.

Index

Page numbers refer to the first page of the article(s) in which the company is mentioned. This index is provided as a service to readers. The publisher does not assume any liability for errors or omissions.

Company Index

Agency.com Ltd. 98
American Management Systems Inc. 98
Andersen Consulting 16, 74, 92
Andersen Worldwide LLP 74, 98
AnswerThink Consulting Group Inc. 98
Arthur Andersen 74
A.T. Kearney Inc. 16, 74
Bain & Co. Inc. 16, 98
Booz, Allen & Hamilton 16
Boston Consulting Group 16
Cambridge Technology Partners Inc. 74, 92, 98
Cap Gemini Group 74, 98
Ciber Inc. 16
Compaq Computer Corp. 74, 98
Dataquest 74, 92
Deloitte & Touche Consulting Group 74
Deloitte & Touche LLP 74, 98
Digital Equipment Corp. 30
Electronic Data Systems Corp. 98
Emergent Corp. 74
Ernst & Young LLP 74, 98
GTE Corp. 60
Hewlett-Packard Co. 98
HP Consulting 74
IBM Corp. 98
IBM Global Services 74
IDG Books Worldwide 16
International Data Corp. 60
International Network Services 16
J.C. Whitney 60
Kennedy Information LLC 74
Kennedy Information Research Group 16
KPMG Peat Marwick LLP 30, 74, 98
Lockheed Martin Corp. 98
Mastech Corp. 16
McKinsey & Co. Inc. 16, 74, 98
Mercer Consulting Group 74
Meta Group Inc. 74, 98
Network Computing Corp. 30
New High Glass Co. Inc. 60
Oklahoma City Water Utilities Trust 30
Oracle Corp. 98
Perot Systems Corp. 92
Pragmatek Consulting Group Ltd. 60
PricewaterhouseCoopers LLP 60, 74, 98
Renaissance Worldwide Inc. 16, 98
RLG International 74
Sapient Corp. 16
Science Applications International Corp. 98
Sea-Land Service Inc. 60
Sigma Consulting Group 92
Solutions 30
Standish Group International Inc., The 92
Strategos 74
Sun Microsystems Inc. 98
Swiss Bank Corp. 92
Technology Solutions Co. 16
Theco International 60
Tribeca Research Inc. 74
UOP Inc. 92
VF Jeanswear Inc. 12
WellPoint Health Networks Inc. 60
Whittman-Hart 16

Advertiser Index

**Denotes Section 2 Advertiser*

3Com Corp. 45, 81*
Acucorp Inc. 31*, 57*
Acxiom Corp. 6*
Amdahl Corp. 53
Aspect Telecommunications 61*
Attachmate Corp. 23*
Baan International 33*
Bluestone Inc. 81
Bridgeman Institute 85
Business Objects Inc. 15*, 91
Canon USA Inc. 47*
Ciber Inc. 35
CIO Communications Inc. 72*, 93*, 95, 97*
Cisco Systems Inc. 2
Comdex 87*
CommercePath 27
Compaq Computer Corp. 62
Computer Assoc. Intl. Inc. C4, C4*, 5
Compuware Corp. 29
Comshare Inc. 77*
Crossworlds Software 17*
Datalink 93
Dell Computer Corp. C2
Digital Delivery 43
Dow Jones & Co. 13*
Empirical Software 63*
Ernst & Young LLP 40*
Exabyte Corp. 70*
Fulltime Software 20*
Gateway 2000 Inc. 10
Great Plains Software Inc. 83
Hewlett-Packard Co. 10*
IBM Corp. 26*, 65*
Inacom Corp. 24
Information Builders Inc. 5*
Intel Corp. 18
JD Edwards & Co. 29*
Keane Inc. 53*
Kronos Inc. 51*
Lockheed Martin Corp. 17
Lotus Developement Corp. 56
Lucent Technologies Inc. 77
Managing Automation 69*
Masters of the Web 83*
MCI Communications Corp. 34*, 36*, 38*
MDT Software 75*
MicroFocus 67
Microsoft Corp. 6, 47
MIL 3 Inc. 87
NEC Technologies 2*, 38
Netscape Communications Corp. 19*, 33
Network Appliance 79
New Horizons Computer Learning Centers 89
Nortel 9*
Novell Inc. 30
Oracle Corp. 9, 21
PeopleSoft Inc. C2
Peritus Software Services Inc. 15
Platinum Technology Inc. C3
Prestige Software 55*
Robert Half 95*
SAS Institute Inc. 23
Seagate Software 55
Secure Computing Corp. 25*
Sequent Computer Systems 59
Sprint 37
Storagetek 71
Sybase Inc. 61
TBI 85*
Tibco 58*
Tivoli Systems Inc. 48*
TRW 75
Unisys Corp. 13
United States Postal Service 79*
USWeb Corp. 45*
Veritas Software 67*
Wang Laboratories Inc. 69
Xerox Corp. C3

CIO SALES OFFICES

President, CEO and Group Publisher
JOSEPH L. LEVY
508 935-4601

Publisher
GARY J. BEACH
508 935-4202

Senior VP/Sales
MICHAEL J. MASTERS
973 244-5500, Ext. 21

EAST COAST

Regional Director / Advertising Sales
FRANK S. GENOVESE
973 244-5500, Ext. 19

Regional Managers / Advertising Sales
EILEEN P. LOBAUGH
973 244-5500, Ext. 18
KATHY POWERS
973 244-5500, Ext. 14

Advertising Sales Associates
STACY G. GREIMEL
973 244-5500, Ext. 16
JOAN BONADEO
973 244-5500, Ext. 17
ANGELA FUNG
973 244-5500, FAX 973 227-1565

NEW ENGLAND

Regional Manager / Advertising Sales
LEN GANZ
508 935-4039

Advertising Sales Associate
STEPHANIE ROY
508 935-4092, FAX 508 872-0618

SOUTH CENTRAL

Regional Manager / Advertising Sales
ROBERT E. SAWDON

Advertising Sales Associate
SOUNTHALY OUTHAVONG
512 306-9801, FAX 512 306-9805

NORTH CENTRAL

Regional Manager / Advertising Sales
KEITH H. KENNER

Advertising Sales Associate
ANNE SWARTZ
847 441-5005, FAX 847 441-5150

WEST COAST

Regional Director / Advertising Sales
RICHARD BASTAS
415 693-1988

Regional Managers / Advertising Sales
JAMES BARRETT
415 693-1995
PAULA J. CONNOR
415 693-5634

Advertising Sales Associates
TIM LEONARD
415 693-5630
SYLVIA WEILER
415 693-5632
ALLISON WITTER
415 693-1994, FAX 415 398-4649

SOUTHERN CALIFORNIA

Regional Manager / Advertising Sales
NANCY A. COY

Advertising Sales Associate
JANIS WIKANDER
949 475-5579, FAX 949 475-5583

LIST SERVICES

List Services Manager
KATHRYN A.W. GRAYSON
508 935-4072

List Services Sales Associate
AMY McCABE
508 935-4151
800 859-5478, FAX 508 872-8506

For further sales information, visit our Web site at
www.cio.com/marketing/salesoffices.html.

CIO

PERSPECTIVES

March 28-31, 1999
The Arizona Biltmore
Phoenix, Arizona

IT Triage

Managing in a State of Continuous Emergency

CORPORATE HOSTS

ACXIOM · epiphany · GTE INTERNETWORKING POWERED BY BBN · IDC · Lucent Technologies Bell Labs Innovations · Sun microsystems · VIDEOSERVER

To enroll, visit our Web site at *www.cio.com* or call 800 366-0246.

CIO Communications, Inc. • 492 Old Connecticut Path • Framingham, MA 01701

Ask the Experts

AS ANY WRITER CAN TELL YOU, EVERYBODY'S an editor. And these days, it seems that everyone is a consultant. And as more companies offer advice for hire, more types of consulting companies appear. More choice is usually a good thing, but it can also get confusing. How do you pick the right type of consultant for the job? We talked to Stan Lepeak, vice president of Meta Group's Advanced Information Strategies group in Stamford, Conn., about what to expect from different types of consultancies.

Who are the Big Five? What was known for so long as the Big Eight has been consolidated into five consulting firms: Andersen Worldwide (Andersen Consulting and Arthur Andersen), Deloitte & Touche, PricewaterhouseCoopers, KPMG Peat Marwick and Ernst & Young. PricewaterhouseCoopers and Andersen are both large enough to handle massive, complex, global projects, according to Lepeak. Deloitte is smaller, but gets high marks in customer satisfaction. KPMG and E&Y are also smaller, nimbler firms, and while they are both growing fast, they still have some gaps in their skill sets. They typically target large and sometimes midsize companies.

How do they differ from management consultancies? Management consultants like Bain and McKinsey are knowledgeable about business process and strategy, Lepeak says, but they tend to be weak on technology. The question you should ask is, "Can we develop a business strategy without considering how technology will affect it?" If you can't, and if you decide to use management consultants anyway, remember to enlist the aid of a smart technologist.

Are they all considered systems integrators? No. Many systems integrators were originally technology outsourcers, such as EDS and CSC. They're big, global companies, but, says Lepeak, consulting is the also-ran in terms of importance at these firms. EDS and CSC both are known for turning consulting engagements into outsourcing opportunities, and IBM is hampered by the fact that it's also a vendor.

There's also a tier of smaller systems integrators, such as Cap Gemini and American Management Systems, that don't have the outsourcing bias. These firms do the same sort of work as the Big Five and the larger systems integrators, but they don't have the same global reach or breadth of experience.

What about using vendor professional services? Companies such as Hewlett-Packard, Sun Microsystems, Oracle and Compaq all offer consulting services. They are fine if you use them in support of one of their products, and they're also good at training people. However, these firms naturally tend to recommend their own products. They can prove to be a good choice if you've already decided on your products.

What else is out there? Boutiques are a kinder, gentler version of the Big Five. Some examples: Agency.com, AnswerThink, Cambridge Technology Partners and Renaissance Worldwide. "Soldiers of fortune" are firms rooted in the defense industry, such as Lockheed Martin and SAIC, that are now moving into the commercial sector and trying to get into the consulting market.

–Carol Hildebrand, with additional reporting by Jennifer Bresnahan.

ILLUSTRATION BY RICK PETERSON

Buzzwords

Boutiques:
Lepeak describes these firms as having less stability and geographic reach, and they tend to have more specialized areas of expertise. On the other hand, he says, they're probably cheaper, offer more personalized service, and you're more likely to get senior people on the project.

Soldiers of fortune:
They tend to be very efficient and regimented, and they know their technology. Conversely, they're not always creative, says Lepeak. If you need strong technical expertise in networking, telecommunications or engineering, these companies offer very skilled technicians at a competitive price.

Oversee everything.

Overlook nothing.

ADvisor

Overcome anything.

From a single console, only AD*visor* lets you monitor your entire Application Development Infrastructure. Watch over every critical aspect of managing process and projects with Process Continuum, components and reuse with Paradigm Plus, changes and configurations with CCC/Harvest. Because the better you can see what's going right, what's going wrong and what's going nowhere at each stage of the development cycle, the more applications you can deliver on time and on budget. For more information, or to test AD*visor*'s "app-titude," visit **www.platinum.com/advisor**

make IT shine™

data • systems • apps

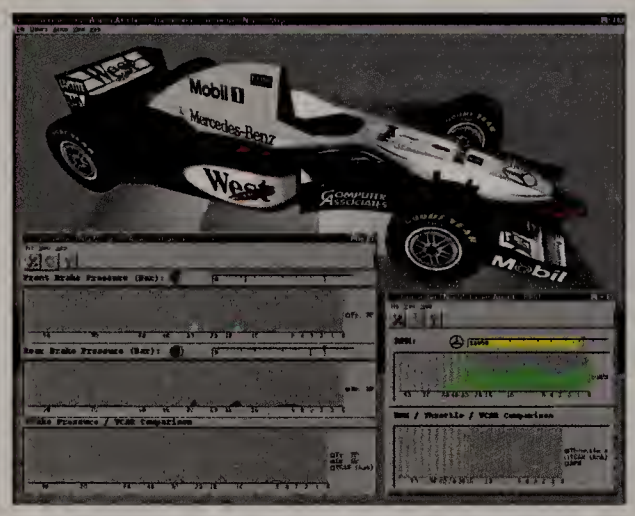
PLATINUM TECHNOLOGY

© 1998 PLATINUM *technology, inc.* All rights reserved.

Look What Unicenter Is Managing Now.

When we say Unicenter® can manage anything, anywhere, we mean it.

As this Formula One MP4/12 car races along at speeds in excess of 210 miles per hour, pulling G forces that rival a jet fighter plane, it broadcasts hundreds of megabytes of critical telemetry data back to the pit crew. They use it to make split-second decisions that often mean the difference between victory and defeat.



Unicenter TNG's Real World Interface™ analyzes critical performance measures such as front and rear brake pressure impact on car speed.

Unicenter TNG® helps the West McLaren Mercedes race team—one of the winningest teams in Formula One history—interpret this vital information through Unicenter TNG's sophisticated manager/agent technology, and a revolutionary 3-D interface. Everything that's happening, from the pressure on the left rear brake pad to the downforce of the chassis set-up, can be monitored and managed through Unicenter TNG.

By looking at this data in a whole new way, the West McLaren Mercedes race team can now make smarter decisions in less time. In a business where hundredths of a second can mean the world, Unicenter TNG is making a difference.

This is just one example of how Unicenter TNG today is managing all kinds of non-IT devices for all kinds of organizations.

Call us to find out how Unicenter TNG can help you be more competitive.

Call 1-888-UNICENTER or visit www.cai.com

COMPUTER ASSOCIATES®
Software superior by design.

Unicenter TNG®

©1997-1998 Computer Associates International, Inc., Islandia, NY 11788-7000. All product names referenced herein are trademarks of their respective companies.